Energy and Water Regulatory Commission (EWRC)
Bulgaria

Annual Report
to the European Commission

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LIST OF ABBREVIATIONS

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ACER	Agency for the Cooperation of Energy Regulators
AAS of EA	Act on the Amendment and Supplement of the Energy Act
BETP AD	Bulgarian Energy Trading Platform AD
BGH EAD	Balkan Gas Hub EAD
CCP	Commission for Consumer Protection
CCR SEE	Capacity Calculation Region South East Europe
CDM	Central Dispatching Management
CDP	Commercial Dispatching Platform
CEER	Council of European Energy Regulators
CPC	Competition Protection Commission
CS	Compressor Station
DAM	Day-Ahead Market
DSO	Distribution System Operator
EA	Energy Act
EMR	Electricity Market Rules
ESO EAD	Electricity System Operator EAD
ESSF	Electricity System Security Fund
EPS	Electric power system
ERSA	Energy from Renewable Sources Act
EWRC, Regulator	Energy and Water Regulatory Commission
GRP	Gas Release Program
GTN	Gas Transmission Network
GTTN	Gas Transit Transmission Network
HECG	High-efficient cogeneration
IBEX EAD	Independent Bulgarian Energy Exchange EAD
IDM	Intraday Market
ITO	Independent Transmission Operator
NGMBR	Natural Gas Market Balancing Rules
NGTN	National Gas Transmission Network
NGTR	Natural Gas Trading Rules
OEPR	Ordinance №1/2013 on electricity price regulation
OLAES	Ordinance №3/2013 on licensing the activities in energy sector
ONGPR	Ordinance №2/2013 on natural gas price regulation
PCI	Project of common interest
PEOR	Power Exchange Operational Rules
PPAT	Persons professionally arranging
RAS of PEOR	Rules Amending and Supplementing the Organized Power Exchange Operational Rules
REMIT	Regulation (EU) No. 1227/2011 of the European Parliament and of the Council of 25 October 2011 on wholesale energy market integrity and transparency
RMESOCP	Rules of maintaining electricity supply offers comparison platform
SEEGAS	South-Eastern and Eastern European gas market
SDAC	Single Day Ahead Coupling
SLP	Standardized Load Profiles
SLR	Supplier of Last Resort
TSO	Transmission System Operator
VTP	Virtual trading point
WPP	Wind power plant
UMM	Urgent Market Messages

1. FOREWORD

EWRC's priority in the electricity sector in 2022 was to minimize the effects of the drastic spike in electricity and natural gas prices caused by the ongoing military conflict and the COVID-19 pandemic. The economic and geopolitical consequences for Bulgaria and Europe have necessitated the need to provide alternative suppliers of energy resources.

In order to meet the challenges, EWRC has taken a number of important steps. Amendments and supplements have been adopted to the Electricity Market Rules and to Power Exchange Operational Rules, which have reformed the balancing services market. A 15-minute settlement interval and 15-minute intraday market trading products have been introduced. The amendments led to a fairer distribution of imbalances costs among trading market participants and to achieving energy supplies at minimum costs. The new regulatory framework contributes to the fulfilment of the EU main goal in the electricity sector - the creation of a fully functioning and interconnected internal energy market, contributing to the security of energy supplies, increasing competitiveness and ensuring the possibility for all consumers to purchase energy at affordable prices. The amendments gave an impetus to the EU balancing markets coupling and created additional opportunities for the exchange of balancing services, as well as to increase the operational security of the electricity system.

In its pricing decisions during the period, EWRC has consistently applied a balanced and conservative approach to avoid sudden price changes, considering the interests of all participants. Electricity tariffs for the regulated market in 2022 remained without significant change – prices for household customers increased by 3.4%. In order not to create financial losses for balancing service providers, EWRC continued to apply the approach adopted in 2021 in determining the threshold price for transactions in the balancing energy market for downward regulation. The price of this energy was tied to hourly electricity prices achieved in the day-ahead market and to the regulated price of producers participating in the public supply mix.

In 2022, the Regulator's efforts in the natural gas sector aimed at ensuring the required quantities for the country's needs and controlling the sharply rising prices of natural gas due to the suspension of supplies from Russia. As a result of the emergency measures at national and European level, natural gas prices in the last months of 2022 began to normalize. An important role for that was played by the high filling levels of gas storage facilities, the supply of liquefied natural gas (LNG) and the decline in consumption. After the suspension of supplies under the long-term contract with OOO Gazprom Export in April 2022, our country began to provide alternative routes and natural gas supplies. The necessary alternative consumption quantities have been agreed upon and a gas crisis has been avoided. EWRC included these quantities in the price mix when approving the gas price for the respective months.

In crisis conditions with troubled supplies and high prices, the interconnection gas pipeline IGB Bulgaria – Greece’s entry into commercial operation on 1 October 2022 was of key importance for ensuring most favourable prices for Bulgarian consumers. EWRC made its significant contribution in that matter by adopting important regulatory decisions in an extremely short period of time, which fulfilled the necessary requirements and created the legal possibility for the lounge of the interconnector. Via the new interconnector Bulgaria began to receive the agreed quantities of 1 billion cubic meters per year from Azerbaijan at competitive prices. Those quantities, covering

nearly one third of the country's needs, had a favourable effect on the price mix approved monthly by EWRC.

In parallel with the adoption of the price decisions, the Regulator continued to issue licenses for trading in natural gas. In 2022, 31 traders were granted a license, bringing their total number to 75. The increased number of participants increased liquidity and competition in the natural gas market.

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Chairman
Energy and Water Regulatory Commission

2. MAIN DEVELOPMENTS IN THE GAS AND ELECTRICITY MARKETS

In 2022 the Regulator's efforts in the **electricity sector** were aimed at mitigating the consequences of the drastic surge in electricity prices on the free market.

In its pricing decisions, EWRC continued to apply a balanced approach and did not allow drastic price changes. In 2022 the weighted average increase in total electricity prices for household customers on the regulated market amounted to 3.40%.

Heating energy prices with average 29.73% increase compared to 2021-2022 season were approved. That was mainly due to the preferential electricity prices of the heating companies and the increased costs of fuel and heat energy transmission. With the heat energy VAT reduction from 20% to 9%, the real price increase was reduced to 17.84%.

Regarding control activities, in 2022 EWRC continued the activity of approving general terms and conditions of energy companies with the aim of bringing them into line with the changes in the regulatory framework. In accordance with the established practice, the Regulator carries out checks on each received signal of violation of the license obligations. In terms of complaints handling and work with consumers, EWRC undertakes strict control measures to comply with the statutory deadlines for examining and resolving disputes and to improve communication between customers and suppliers.

In 2022, a 15-minute settlement period was introduced in the balancing energy market in accordance with the requirements of Regulation (EU) 2019/943 of the European Parliament and of the Council of 5 June 2019 on the internal market for electricity. The aim of these amendments is to enable market participants to self-balance as close to real-time as possible according to the closing hours of the balancing energy market. That would facilitate the operation of the electricity exchange market in the intraday market segment. By introducing a shorter settlement period, support would also be provided for the trading activity of the intraday electricity exchange market, and the development of a range of trading products with uniform delivery time intervals would be encouraged as well.

The global **natural gas** market experienced a major upheaval in 2022 as Russia significantly cut pipeline supplies to Europe, putting unprecedented pressure on supplies and triggering a global energy crisis. That had a strong impact on natural gas prices, which reached record high levels in the European Union and Bulgaria. The price of Europe's largest and most liquid gas hub, the Dutch Title Transfer Facility (TTF), which alone accounts for almost 90% of total gas trading volume, hit a record high of €346/MWh in August 2022. The natural gas price in Bulgaria also reached record levels, with the highest price of BGN 353.21/MWh approved by EWRC for Bulgargaz EAD in September 2022. Nevertheless, European countries managed to fill their underground gas storages well above historical averages, supported by a combination of targeted policy measures, record LNG volumes and a sharp drop in consumption. At the end of December 2022, record high temperatures were recorded, which led to significantly lower natural gas prices compared to previously reached record levels.

Until 27th April 2022, the main natural gas quantities for Bulgaria were provided by imports from the Russian Federation under the long-term contract between Bulgargaz EAD and Gazprom Export and after that date the Russian supplier stopped supplying natural gas to Bulgaria.

After the suspension of natural gas supplies, Bulgargas EAD secured alternative supplies for Bulgaria from various traders in order to ensure the natural gas quantities requested by its customers mainly through supplies of liquefied natural gas.

In 2022 Bulgargaz EAD provided natural gas quantities also from Azerbaijan imports according to a concluded long-term contract with an Azerbaijani company and until the end of September, due to the unfinished construction of the interconnection gas pipeline Bulgaria - Greece (IGB), these deliveries were made at Nea Mesimvria delivery point - interconnection point of the Trans-Adriatic Gas Pipeline (TAP) and the Greek gas transmission network on the territory of the Hellenic Republic. To deliver Azeri quantities to Bulgaria, transmission was carried out through the Greek gas transmission network from Nea Mesimvria delivery point to Kulata/Sidirokastro – an IP of the Bulgarian and Greek gas transmission networks. The delivery point in the concluded contract between Bulgargaz EAD and the Azerbaijani company is the interconnection point of TAP and IGB. Azeri quantities delivery to Nea Mesimvria IP was carried out under conditions different from those in the contract between Bulgargaz EAD and the Azerbaijani company. From the beginning of January till the end of June 2022 the Azeri quantities were delivered in a reduced volume at a price different from that in the contract between the two companies, due to the fact that they were not delivered through the IGB interconnector as its construction was unfinished. In the period from the beginning of July to the end of September, the gas quantities were delivered in full volume, but again and for the same reason at a different price compared to the one in the contract between the two companies. On 1st October 2022 with IGB entry into commercial operation Bulgaria began to receive the full agreed Azerbaijani natural gas quantities at the amount of 1 billion cubic meters per year at a price determined in the contract between Bulgargaz EAD and the Azerbaijani company. IGB is of key importance to increasing security of supply and ensuring diversification of natural gas sources for Bulgaria, Greece and the South East Europe region. IGB enables secure deliveries from a variety of sources to a number of countries in Central and South-Eastern Europe and the Western Balkans, with the possibility of deliveries to Moldova and Ukraine as well. EWRC role in the IGB commissioning was also of key importance as the Regulator adopted several important decisions that fulfilled the necessary regulatory requirements and created the legal possibility for the gas interconnector with Greece to enter into operation on 1st October. By its decision EWRC gave permission to start IGB licensing activity and approved ICGB AD business plan for the period 2022 – 2026 as an integral part of the license. EWRC and RAE (the Greek Energy Regulatory Authority) jointly adopted a final joint Decision on the certification of ICGB AD as an independent natural gas transmission operator; a Decision to approve changes to IGB Network Code and its applications, including Tariff Code and Gas Transmission Agreement; a Decision to change the date of commercial operation of the gas pipeline from 1st July to 1st October 2022, which was required given the delay in of IGB construction; a Decision to approve the Methodology for determining a daily fee for imbalance in the Greece – Bulgaria interconnection.

Natural gas quantities have been supplied to Bulgaria both by Bulgargaz EAD and by other natural gas traders through IGB gas pipeline, which contributed to the diversification of natural gas supplies.

2.1. Evaluation of the market development and regulation

In 2022 EWRC took the necessary actions to develop and improve the secondary legislation in accordance with its legal powers and considering the dynamically developing public relations in the energy field. The purpose of that activity was for EWRC acts to comply with the national and European legislation in the relevant areas, to create conditions for the electricity markets development, as well as to overcome problems identified in the practice of applying EWRC acts.

In 2022 EWRC adopted the following secondary legislation acts:

Ordinance amending and supplementing Ordinance No. 3 of 21 March 2013 on licensing the activities in the energy sector, promulgated, SG No. 25 of 29 March 2022, in force as of 29 March 2022 (OAS of OLAES).

With a view to clarifying the provisions of Ordinance No. 3 of 2013 on licensing the activities in the energy sector (OLAES), regarding the obligation of market participants to keep a log of concluded transactions with wholesale energy products, a procedure was initiated in 2022 for the adoption of Ordinance amending and supplementing Ordinance No. 3 of 21 March 2013 (OAS of OLAES).

The OAS of OLAES aims to introduce clear rules on the type and nature of information to be kept by market participants and to remove the duplicative function of keeping a log of information reported to the Agency for the Cooperation of Energy Regulators. Thus the additional administrative burden for market participants has been removed and their financial expenses have been reduced. Next, with the adopted amendments and additions to OLAES, regulatory conditions have been created for the accurate implementation of the Energy Act (EA), Regulation (EU) No. 1227/2011, Commission Implementing Regulation (EU) No 1348/2014 of 17 December 2014 implementing Article 8(2) and (6) of Regulation (EU) No 1227/2011 of the European Parliament and of the Council on trading market integrity and transparency wholesale energy with regard to data reporting (Implementing Regulation (EU) No. 1348/2014), Directive 2009/72/EC, Directive 2009/73/EC and Directive (EU) 2019/944. By establishing clear and precise requirements for the type and method of storage of information in accordance with the mentioned acts, it will be possible for EWRC to receive information in a timely manner when examining specific cases in which there is a suspicion of a violation of Art.3 and Art.5 of Regulation 1227/2011, thereby achieving the goal of the law and European legislation for the Bulgarian energy market to function on a competitive basis and to be an indivisible part of the single energy market in the European Union.

Rules amending and supplementing the Power System Management Rules promulgated SG No. 62 of 5 Aug 2022, in force as of 5 Aug 2022 (RAS of PSMR)

The need to adopt RAS of PSMR was determined by the requirement for the said Rules to be brought into compliance with the Act on amendment and supplement to the Energy Act (AAS of EA, promulgated SG No. 9 of 2021) and with the European Union legislation in the field, as well as the established incompleteness and inaccuracies in the current version of the rules. Provisions in chapters one, two and three of the PSMR have been amended.

The amendments and additions in PSMR chapter four aim at compliance of the conditions and manner of using the electricity transmission network, as well as the provision of ancillary services and receiving of system services with EA and Commission Regulation (EU) 2017/2195 of 23 November 2017 establishing guidelines for electricity balancing (Regulation (EU) 2017/2195).

With the amendments in chapter five and chapter six, necessary prerequisites have been created in terms of the technical requirements under which the electricity transmission network operator concludes deals for ancillary services. Also, PSMR provisions relating to ancillary services have been brought into line with the current national and European legislation.

The adopted amendments and additions to PSMR will contribute to the real implementation of the norms of the national and European legislation in the electricity sector, a high degree of security of electricity supplies and access of new generation types and transmission technologies to the electricity system of the Republic of Bulgaria.

Rules amending and supplementing the Power Exchange Operational Rules (RAS of PEOR)

In November 2021, EWRC opened a procedure for amending and supplementing the Organized Power Exchange Operational Rules, initiated at the proposal of the power exchange operator Independent Bulgarian Energy Exchange EAD (IBEX EAD). As a result of the

accumulated practice of the exchange market and its administration activity, a need has been established to rearrange some relations arising in the course of electricity trading on an organized exchange market in the bilateral contracts market segment and in the day-ahead market segment. Therefore, with the Rules Amending and Supplementing the Organized Power Exchange Operational Rules, promulgated, SG No. 2 of 7 Jan 2022 (RAS of PEOR, promulgated, SG No. 2 of 7 Jan 2022) the following provisions of the Rules have been amended and supplemented: Art. 34, Art.139, Art.147, Art.153, Art.239 and Art.244. The adopted amendments and additions regulated a procedure enabling trading participants to withdraw from the electricity exchange market at their own wish, clarity has been introduced regarding the mechanism of clearing price formation and submitting offers deadlines, publishing the delivery day clearing prices, relevant traded volumes, supply and demand curves covering the submitted offers for demand and supply in the Bulgarian market zone, net exchange position (import/export) for the relevant delivery interval, as well as publication of trading results for the commercial participants, who entered into transactions in the day-ahead market. The Art.153 wording has been edited with a view to protecting the exchange operator from groundless objections leading to excessive administrative involvement. In addition, IBEX EAD expressed an opinion that "guarantee insurance" should have been removed as a type of security for payment and/or good performance of the bilateral contracts market segment, since in the event of obligations' non-fulfilment the non-performing party would create difficulties in absorbing that type of collateral due to the process complexity of satisfying insurance claims compared to satisfying a bank guarantee and/or cash deposit. To that end, the texts of Art.239 and Art.244 and § 1, item 18 of the Additional provision of the act had been amended. The adopted amendments aim at the uncontroversial application of PEOR by market participants and providing more reliable conditions and prerequisites for concluding transactions for long-term products for participants in the bilateral contracts segment.

The adoption of amendments and additions to PEOR has been required due to the dynamically changing conditions in the electricity market, the observed growth of electricity prices and the need for effective financial risk management.

With the RAS to PEOR, promulgated SG No. 74 of 2022, in force as of 16.09.2022) the possibility of trading with 15-minute products has been also introduced in the intraday market segment with a view to introducing the requirements of Art. 8, par. 4 of Regulation (EU) 2019/943 of the European Parliament and of the Council of June 5, 2019 on the internal electricity market (Regulation 2019/943), as well as specific requirements for invoicing transactions regulated in tax legislation.

Self-invoicing by the exchange operator has been introduced with the RAS to PEOR, since for the purposes of value added tax, self-invoicing should be carried out through a separate document (agreement) signed by the parties, for which the National Revenue Agency should be notified. For this purpose, Art. 13 and other related provisions of PEOR have been amended and the basis for concluding such an agreement between IBEX EAD and the trading participants has been created. Thus, the concluding of a self-invoicing agreement becomes a factual composition element in the registration of a trading participant on the electricity exchange market in the day-ahead and intraday market segments.

The adoption and implementation of the amendments and supplements of PEOR contributed to the more efficient work of the exchange operator, smaller fluctuations in electricity prices, greater competition between producers/traders, but also a larger potential market for their sales/purchases would make the Bulgarian electricity market much more reliable and would be beneficial and in the interest of all trading participants, including end customers.

Rules amending and supplementing the Electricity trading rules, promulgated, SG No. 76 of 2022, in force as of 23 Sep 2022 (RAS of ETR)

The amendment and supplement to the Electricity Trading Rules (ETR) was initiated with a view to aligning them with the rules contained in Regulation (EU) 2019/943 of the European Parliament and of the Council of 5 June 2019 on the internal electricity market (Regulation 2019/943), Commission Regulation (EU) 2017/2195 of 23 Nov 2017 establishing a guideline on electricity balancing, Regulation (EU) 2017/1485 of 2 Aug 2017 establishing a guideline on electricity transmission system operation, as well as with the AAS of EA, prom.SG, no. 9 of 2021.

With the RAS of ETR, a 15-minute settlement period was introduced on the balancing energy market in accordance with the requirements of Regulation 2019/943. The purpose of these amendments was to enable market participants to self-balance as close to real-time as possible according to the closing hours of the balancing energy market. This would facilitate the operation of the electricity intraday exchange market. By introducing a 15-minute settlement period, trading in the electricity intraday exchange market would also be supported and the development of a range of trading products with uniform delivery time intervals would be encouraged.

Amendments to ETR expand the balancing market functions. In this regard, with the aim of creating an opportunity for a more detailed balancing market setup and including more trading participants, an amendment and addition was made to the relevant ETR sections, regulating that type of public relations, with individual provisions being amended, while in Chapter nine Balancing Market the balancing market functioning has been regulated in a new way. Provisions of Methodology on determining prices of balancing energy, which is an appendix to ETR have also been amended and supplemented. In this way, a fairer costs distribution for imbalances between trading participants in the electricity market has been achieved, which, in turn, would lead to achieving energy supplies at minimum costs - one of the goals introduced in Art.2, para 1, item 4 of EA.

The adopted ETR amendments and additions relate to the main objective of the European Union in the electricity sector, namely the creation of a fully functioning and interconnected internal energy market, which is of crucial importance for maintaining the security of energy supplies, increasing competitiveness and ensuring opportunity for all consumers to buy energy at affordable prices.

Renewable energy sources

In 2022 EWRC set preferential tariffs for the purchase of electricity produced by renewable energy for energy sites under Art. 24, item 1 of ERSA, namely - with a total installed capacity of up to 30 kW inclusive, which are planned to be built on roof and facade buildings connected to the electricity distribution network and on real estates attached to them in urbanized areas.

Next, EWRC updated the preferential tariffs of electricity produced from biomass with a coefficient that reflects the change in the price-forming elements – energy production raw materials costs; transport fuels costs and labour and salary costs.

Pursuant to §28, para 3 of the Transitional and Final Provisions of AAS of EA (promulgated SG No. 9 of 2021) EWRC determined premiums for RES electricity generated by plants with total installed capacity of 500 kW and over 500 kW, and they represented the difference between the preferential price determined before the entry into force of the abovementioned act, respectively the updated preferential price of the site, and the estimated market price determined for that period for RES electricity depending on the primary energy source.

In 2022, EWRC reported increased investment interest in the construction and commissioning of larger-scale PvPP projects, as a result of the reported higher prices on IBEX EAD

day-ahead market in the second half of 2022 and the achieved futures levels for the Bulgarian market on the European Electricity Exchange (EEX) for 2023.

Given the high electricity prices on the power exchange market, the industrial consumers' interest in investing in that type of equipment continued in order for them to reduce their costs by covering their own sites and/or factories' needs or to sell the electricity generated on one of IBEX platforms on one hand, and on the other hand, that gives investors the opportunity to return the invested funds in shorter terms, which makes projects of this type even more attractive.

Electronic certificates of origin of electricity generated in high-efficiency cogeneration

On the basis of Art.21, para 1, item 18 of EA, EWRC issues, transfers and cancels monthly certificates of origin for the commodity electricity produced in high-efficiency cogeneration (HEC) of power and heat. The secondary regulation provides for the way to determine the amount of electricity produced by cogeneration depending on the type of technological cycle, the technical metering devices requirements, as well as cogeneration electricity registration and criteria for determining the cogeneration as highly efficient.

The certificate of origin is an electronic document that is issued at the request of a producer, for a minimum net quantity (1 MWh) of electricity, measured at the plant outlet and submitted to the relevant grid, subject to compliance with the requirements for accuracy, reliability and impossibility of manipulation. For each unit of electricity produced in HEC of power and heat, only one certificate of origin can be issued, which shall be valid for 12 months since the respective unit of electricity has been generated and it is used by the producer to prove to the energy buyer that it has been produced in high-efficiency cogeneration.

Main priorities in the **gas sector** in the reported year were guaranteeing security of supply, ensuring a liquid and competitive natural gas market and connecting the Bulgarian natural gas market with EU member states gas markets in the region and in Europe in order to realize the implementation of the European energy policy of building a single interconnected pan-European natural gas market. The Bulgarian gas market liberalization and competitiveness depend on diversification of supply sources and the development of the gas transportation infrastructure.

Regulator's activity in the natural gas sector in 2022 aimed at creating prerequisites for achieving a liquid and competitive natural gas market and connecting the Bulgarian market with the natural gas markets of EU member-states in the region and in Europe. In the past year, EWRC licensed 31 natural gas traders, and their total number reached 75. With an increase in the number of market participants, the liquidity and competition in the natural gas market increased as well.

The steps taken by the Regulator in 2022 encouraged competition in the market, as well as the development of the liberalization processes in the sector.

Trading on an organized natural gas exchange market in 2022 was carried out successfully, and the number of registered participants also continued to increase. Traded volumes were higher than in 2021, indicating that there were opportunities for market development and increased competition.

EWRC priority task in 2022 was to exercise its powers under Regulation (EU) No. 1227/2011 of the European Parliament and of the Council of 25 October 2011 on wholesale energy market integrity and transparency (REMIT). In 2022, the Regulator expanded its capacity to investigate potential manipulation of organized wholesale energy markets, including by developing new monitoring tools. The first decision was adopted, with which EWRC established a violation of Art. 5 of the Regulation and imposed property sanctions on six energy companies in the total amount

of BGN 1 258 419 - NEK EAD, Interprom EOOD, Energy MT EAD, Most Energy AD, Grand Energy Distribution EOOD and Interelectric EOOD.

2.2. Report on the implementation of the Clean Energy Package

According to the provision of Art.59, para.1 (u) of Directive (EU) 2019/944 of the European Parliament and of the Council of 5 June 2019 on common rules for the internal market in electricity and amending Directive 2012/27 / EU (Directive (EU) 2019/944), EWRC has the obligation to monitor the implementation of rules relating to the roles and responsibilities of transmission system operators, distribution system operators, suppliers, customers and other market participants pursuant to Regulation (EU) 2019/943 of the European Parliament and of the Council of 5 June 2019 on the internal market for electricity. This provision of the Directive has not been transposed into the legislation of the Republic of Bulgaria. In this regard, it should be borne in mind that EWRC has no powers to start up legislative initiative.

3. ELECTRICITY MARKET

3.1. Networks regulation and technical functioning

3.1.1. Unbundling

Pursuant to Article 59 (1), (j) of Directive (EU) 2019/944 of the European Parliament and of the Council of 5 June 2019 on common rules for the internal market for electricity and amending Directive 2012/27/EU (Directive (EU) 2019/944), EWRC should ensure that there is no cross-subsidisation between transmission, distribution and supply activities or other electricity or non-electricity activities. In this regard, Article 39, paragraph 1 of the Energy Act describes the types of activities subject to licensing. EWRC issues a license for each of the indicated activities, for a certain period and with specific conditions, which are an integral part of the decision for its issuance.

Pursuant to Article 37 of EA, energy companies keep separate accounting records for each activity subject to licensing, the activities subject to licensing and other activities, for each branch and enterprise, as well as for activities at regulated and freely negotiated prices. The rules for the separate accounting of energy undertakings, including the assets for the purposes of pricing by groups of customers, as well as the accounts form and content for regulatory purposes, shall be determined by a decision of the Regulator. In addition, it should be noted that energy companies subject to an independent financial audit submit to the Regulator an audit report on compliance with the rules for keeping separate accounts.

3.1.2. Network extension and optimization

Pursuant to Article 59, paragraph 1, (k) of Directive (EU) 2019/944, EWRC monitors the investment plans of the transmission system operators and provides in its annual report an assessment of the investment plans of the transmission system operators as regards their consistency with the ten-year Union-wide network development plan; such assessment may include recommendations to amend those investment plans.

In connection with the above, with EWRC Decision № ДПРМ -1 of 17.11.2022, the Plan for development of the transmission electricity network of Bulgaria for the period 2022 - 2031 was

approved. The 2022-2031 ten-year development plan contains the basic electricity transmission infrastructure, which is planned for construction, expansion, reconstruction and modernization over the next ten years. It ensures timely and harmonious construction and commissioning of new elements in the electricity transmission network for economical and safe operation of the electric power system (EPS), in compliance with the security criteria and the current quality standards of electricity supply.

The annual estimated values of all costs for construction, expansion, reconstruction and modernization of the electricity transmission network objects and of the EPS protection and management systems for the 2022 - 2031 Ten-year plan, amount to 1 848 760 thousand BGN. For the period 2022-2024 ESO EAD intends to make investments at the amount of BGN 580 667 thousand or 31% of the total investment amount.

In view of the above, after examining the investment needs, the Regulator considered that the Transmission Electricity Network Development Plan of Bulgaria for the period 2022-2031 submitted by the independent transmission operator covered all investment needs and that it was in accordance with the ten-year plans of the network development in the European Union. The plan has been developed considering the available information on forthcoming changes in generation, supply, consumption and exchange with other countries, as well as the regional networks investment plans and the EU networks.

3.1.3. Network tariffs

Pursuant to Article 21, paragraph 1, item 8 of EA, EWRC regulates prices in the cases provided for in the same act. Pursuant to Article 30, paragraph 1, items 1, 6, 9, 10, 13 and 17 of EA, prices subject to regulation by the Regulator are:

- access and/or transmission through the transmission network;
- access and/or transmission through the distribution networks.

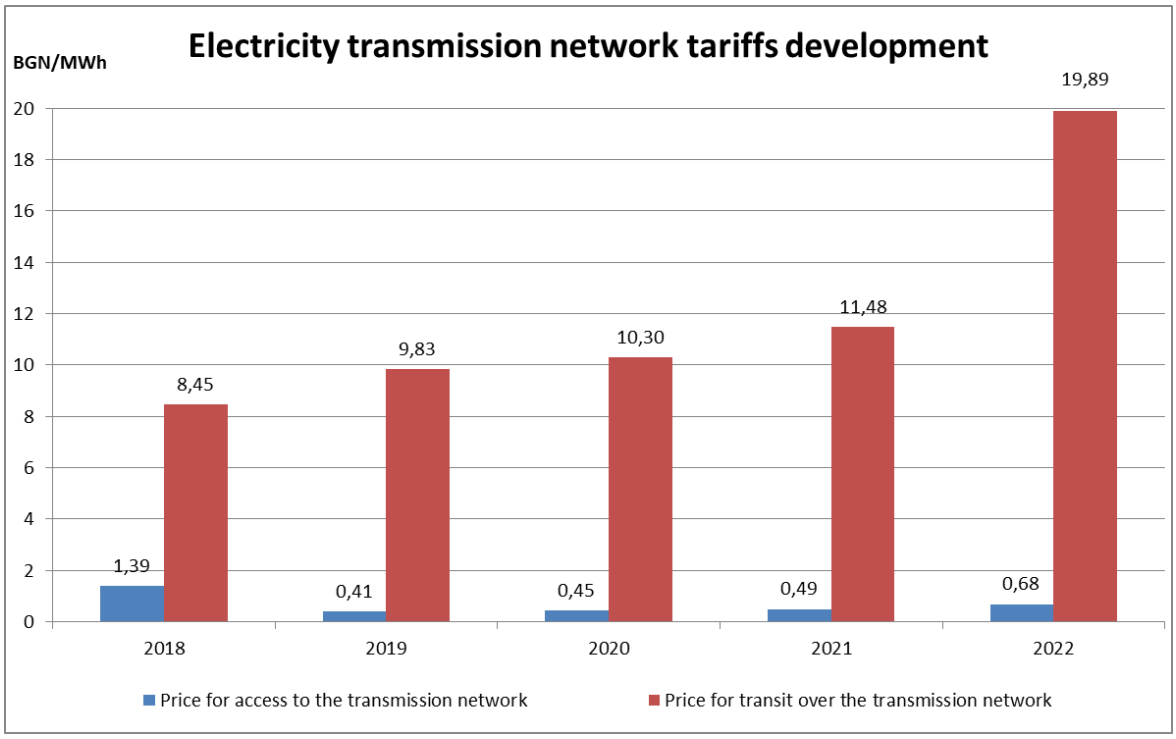
In the pricing decisions during the said period, the Regulator consistently applied a balanced approach taking into account the interests of all participants, in order to avoid sharp price changes.

The network tariffs development for the period 2018 - 2022 is presented in the table below:

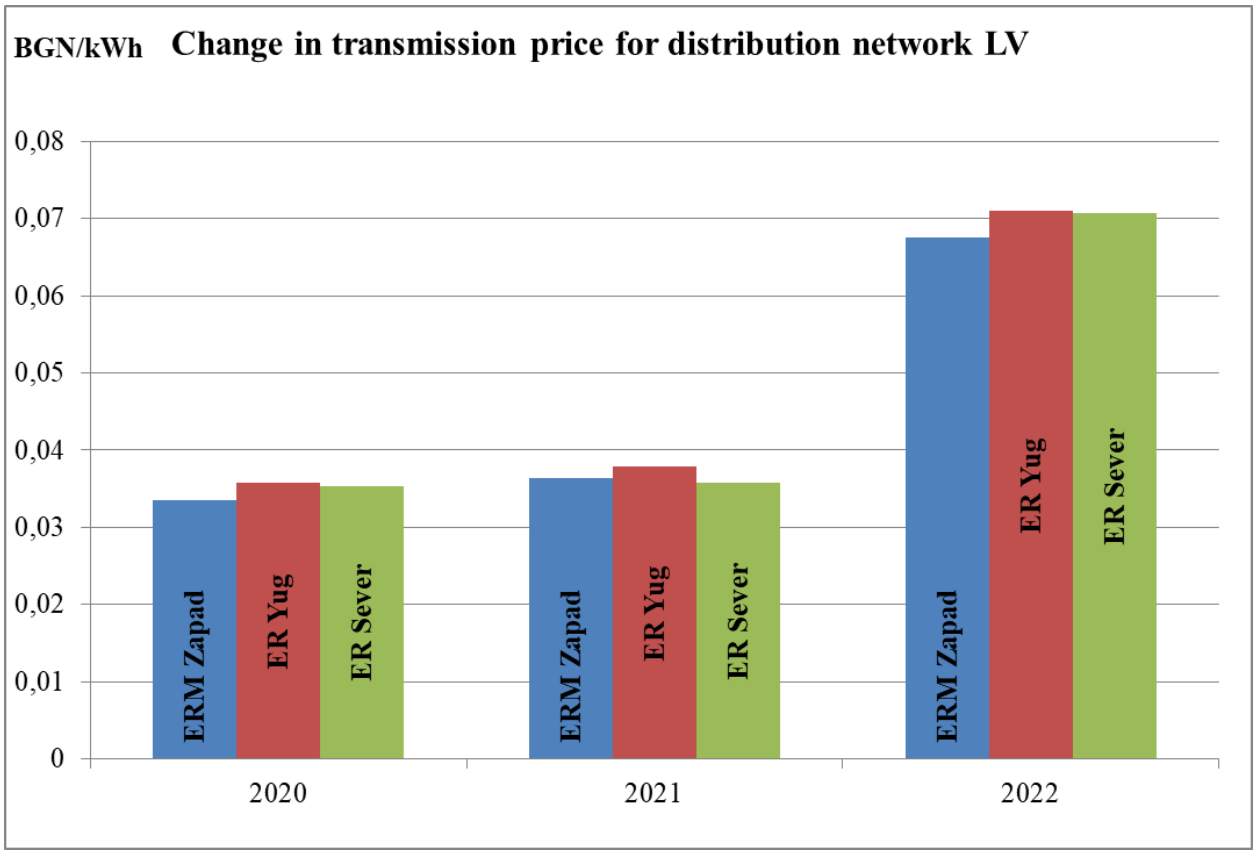
			2018	2019	2020	2021	2022
ESO EAD	Access price to the transmission network	BGN/MWh	1.39	0.41	0.45	0.49	0.68
	Transmission price through the transmission network	BGN/MWh	8.45	9.83	10.30	11.48	19.89
	Access price to the transmission network for PvPP and WPP	BGN/MWh	3.02	5.14	5.28	5.40	5.26
	Access price to the transmission network for power generators, excluding PvPP and WPP generators	BGN/MWh	-	2.12	2.26	2.42	2.30
ERM Zapad EAD	Transmission price through the distribution network MV	BGN/kWh	0.00971	0.01002	0.00980	0.01076	0.01653

	Transmission price through the distribution network LV	BGN/kWh	0.03245	0.03426	0.03355	0.03636	0.06759
	Access price of non-household customers	BGN/kWh/ day	0.01796	0.01989	0.01989	0.02151	0.02151
	Access price of household customers	BGN/kWh	0.00519	0.00577	0.00568	0.00605	0.00648
EP Yug AD	Transmission price through the distribution network MV	BGN/kWh	0.00884	0.0095	0.00915	0.00994	0.01643
	Transmission price through the distribution network LV	BGN/kWh	0.03253	0.03576	0.03574	0.03783	0.07105
	Access price of non-household customers	BGN/kWh/ day	0.01733	0.01981	0.01977	0.0206	0.02256
	Access price of household customers	BGN/kWh	0.00516	0.00599	0.00529	0.00598	0.00598
ERP Sever EAD	Transmission price through the distribution network MV	BGN/kWh	0.0117	0.01274	0.01285	0.01312	0.02648
	Transmission price through the distribution network LV	BGN/kWh	0.03278	0.03478	0.03531	0.03583	0.07073
	Access price of non-household customers	BGN/kWh	0.00854	0.00896	0.02053	0.02073	0.02311
	Access price of household customers	BGN/kWh	0.00854	0.00896	0.00890	0.00885	0.00885
ERP Zlatni Piasaci AD	Transmission price through the distribution network LV	BGN/kWh	0.03303	0.03125	0.04429	0.06035	0.0453
	Access price of non-household customers	BGN/kWh	0.00675	0.00644	0.01349	0.01325	0.00828
	Access price of household customers	BGN/kWh	0.00675	0.00644	0.01349	0.01325	0.00828

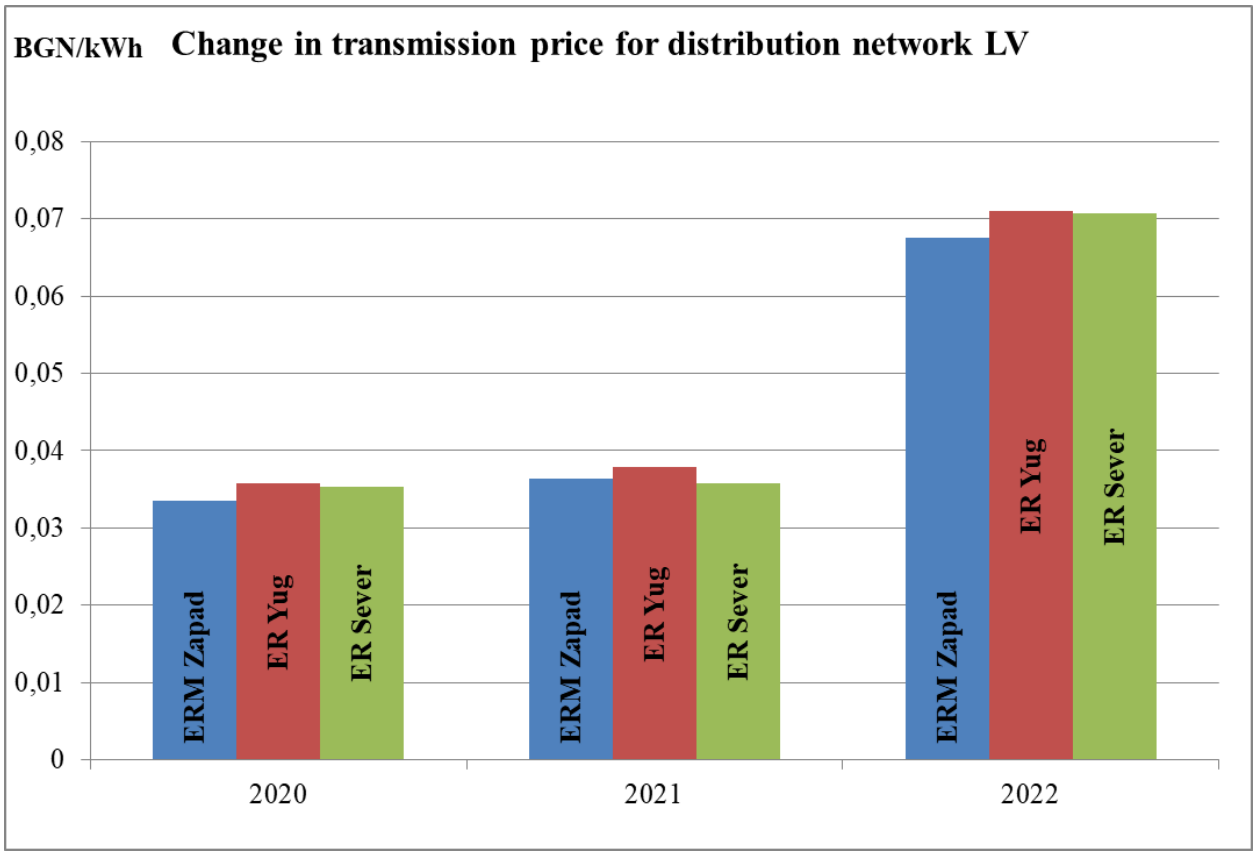
The graph below shows the change in transmission and access prices for the last five years. It could be noted that the access price has significantly decreased in 2019 and has managed to comparatively maintain its value over the last three years. In 2022, the price of access to the electricity transmission network increased by 38.8%. The price of transmission through the electricity transmission network maintained an upward trend, increasing by 73% in 2022 to 2021, by nearly 11.5% in 2021 to 2020, and it increased by only 4.78% in 2020 compared to 2019.



The price of transmission through the electricity distribution network of low voltage in 2022 marks a significant increase compared to 2021, which reached 86% for ERM Zapad EAD, 88% for EP Yug EAD and 97% for ER Sever EAD.



The graph below shows the movement of the access price for household customers over the last three years. It shows that in 2022 there was almost no change in the fee of the three large electricity distribution companies, with the exception of ERM Zapad EAD, where the increase was very small - by 7%.



3.1.4. Security and reliability regulation

Cross-border infrastructure access, including capacity allocation and congestion management procedures

Auction rules on conditions for access to the network for cross-border exchange of electricity (Rules on transmission capacity allocation) and cross-regional cooperation between transmission system operators have been developed in line with Regulation (EU) 2019/943, by introducing common rules and procedures for the allocation and provision of available transmission capacity in both directions on the interconnections of the EPS of Bulgaria and neighbouring power systems. The rules were also drafted in conjunction with Regulation (EU) 2016/1719 of 26 September 2016 establishing a guideline on forward capacity allocation (Regulation (EU) 2016/1719) and Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing guidelines on capacity allocation and congestion management (Regulation (EU) 2015/1222). The purpose of these rules is to ensure optimal transmission network bottlenecks management, promoting energy exchanges development and coordinated allocation of cross-border capacity through non-discriminatory market-based solutions.

The Rules on transmission capacities allocation are to be submitted by ESO EAD every year for EWRC approval and the Harmonized allocation rules for long-term transmission capacities at the common borders between EU member states were approved on 29 Oct 2019 by ACER. Auction

rules, users' registers and agreed transmission capacities to be allocated are published on ESO EAD website. The results of the annual, monthly and daily auctions organized by ESO EAD are publicly available on ESO EAD website and in the public section of the electricity market administration system. According to the above rules, ESO EAD performs the role of an auction operator for allocation of 50% in both directions of the agreed transfer capacities on the Bulgarian-Turkish border, as well as the daily transmission capacities on the border Bulgaria-North Macedonia. The Single Allocation Platform JAO allocates transmission capacities on an annual, monthly and daily basis on the Bulgarian-Greek and Bulgarian-Serbian borders, and on an annual and monthly basis on the Bulgarian-Romanian border. TRANSELECTRICA (Romania) is the auction operator to allocate the daily transmission capacities on the Bulgarian-Romanian border, and MEPSO (North Macedonia) - the annual and monthly transmission capacities on the border Bulgaria-North Macedonia. ESO EAD reports the data for which it is the auction operator in the ARIS system (ACER REMIT Information System). Data on other auctions are reported by JAO or the relevant auction operator.

Cooperation in relation to the implementation of EC Regulations

At the beginning of October, Electricity System Operator EAD started conducting fully daily tender procedures for next-day delivery of the legally required operating reserves for power system management. The service of frequency regulating and of exchange capacities to ensure reserves in real time has been introduced in implementation of Article 6, paragraph 9 of Regulation (EU) 2019/943 of the European Parliament and of the Council of 5 June 2019 on the internal market for electricity. European electricity transmission operators have been introducing the service of frequency regulation and exchange capacities to provide real-time reserves in response to the European electricity markets integration, which necessitates a new approach in electricity systems balancing. The trend towards growth in RES electricity production also imposes the need to develop services for providing operational reserves in real time. In accordance with the requirements of Commission Regulation (EU) 2017/1485 of 2 August 2017 establishing a guideline on electricity transmission system operation, ESO EAD has developed rules and an electronic platform to conduct tender procedures of providing frequency containment and restoration reserves and exchange capacities. Applicants willing to provide these services shall pass technical tests to demonstrate their ability to provide frequency containment reserves, which are activated within 30 seconds, and frequency restoration automatic and manual reserves and exchange capacities, which are activated within up to 15 minutes. Such operating reserves providers can be thermal power units with proven workability and commercial schedules, as well as fast-synchronizing units such as HPP or aggregators that can change their generation within 15 minutes.

One of the main tasks related to the implementation of the requirements arising from Regulation (EU) 2015/1222 establishing guidelines on capacity allocation and congestion management (CACM) was the development of a *Common capacity calculation methodology for the day-ahead and intraday market time-frame for the SEE CCR*, as well as other accompanying methodologies. The implementation of the methodology is closely related to the activity of the SEE CCR Regional Security Centre (RSC). Due to delays in the establishment of the Thessaloniki RSC, the methodology implementation will be delayed too. Another important task regarding the implementation of the requirements arising from Art.35 of Regulation 2015/1222 was the development of a *Methodology for redispatching and countertrading* and a *Methodology for cost sharing*.

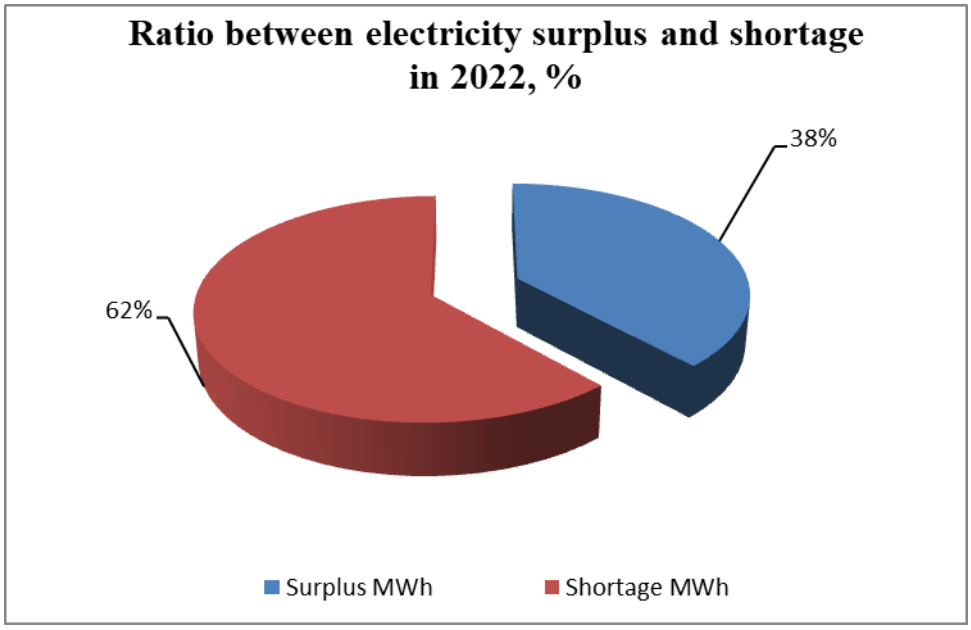
As required by Art.76 and 77 of Commission Regulation (EU) 2017/1485 of 2 August 2017 establishing a guideline on electricity transmission system operation (Regulation (EU) 2017/1485), a common methodology for the region of Southeast Europe has been developed to coordinate the analysis of operational security. The methodology is in compliance with the already developed

Methodology for redispatching and countertrading and a *Methodology for redispatching and countertrading cost sharing*, as required by Art.76, paragraph 1 of Regulation 2017/1485.

One of the main tasks related to the implementation of the requirements arising from Regulation (EU) 2016/1719 establishing a guideline on forward capacity allocation, is the development of a *Common capacity calculation methodology for long-term time frames for SEE CCR* under Art.10, as well as the other accompanying methodologies, and the development of a *Methodology for splitting cross-zonal capacity*. The three regional TSOs chose for that methodology the calculating method based on coordinated net transmission capacity.

3.1.5. Monitoring balance of supply and demand

Total energy shortage in 2022 was 1 499 995 MWh compared to 731 963MWh in 2021, which is a double increase of approximately 105%. Total energy surplus in 2022 was 927 466 MWh compared to 764 943 MWh in 2021, which is a decrease of approximately 21%. Percentages of electricity shortage and electricity surplus in 2022 are shown in the figure below.



Pursuant to Art.21, paragraph 1, item 8, proposition 2 of EA, the Regulator determines annually a marginal price for concluding transactions on the balancing energy market.

With Decision No Ц-44 of 30.12.2021, in force as of 01.01.2022, EWRC set a marginal price for concluding transactions on the balancing energy market for upward regulation at the amount of DAM price + supplement of BGN 100/MWh, where DAM price is the IBEX EAD hour DAM price and a marginal price for concluding transactions on the balancing energy market for downward regulation at the amount of 30% of DAM price, where DAM price is the IBEX EAD hour DAM price, but not higher than the regulated price of HPP owned by National Electric Company EAD. Under Decision No Ц-44 of 30.12.2021, item 3, the said marginal prices shall not be applied when concluding transactions for balancing energy that is purchased/sold from/to neighbouring energy systems under bilateral agreements or from a regional balancing market.

The Rules amending and supplementing the EMR, prom.SG, 76 of 2022, as of 1 Oct 2022 a 15-minutes settlement period has been introduced on the electricity balancing market in compliance with the requirements of Commission Regulation (EU) 2017/2195 of 23 November 2017 establishing a guideline on electricity balancing and Regulation (EU) 2019/943 of the European

Parliament and of the Council of 5 June 2019 on the internal market for electricity. This amendment leads to a fourfold increase in the number of settlement periods, accordingly it can have a significant impact on the way and accuracy of forecasting the purchase/sale electricity quantities. At present, the lack of sufficient real data on the application of the 15-minute settlement interval does not allow an analysis of the achieved price levels for surplus and shortage. To that end, until accumulating a sufficient volume of real data on the reported amounts of imbalances of the balancing groups and the achieved price levels, it is not possible to justify the need to change the approach that EWRC has used in determining the currently applied marginal contract price of transactions on the balancing energy market.

With Decision No.Ц-27 of 30.12.2022, in force as of 01.01.2023, EWRC set a marginal price for concluding transactions on the balancing energy market as follows:

1. marginal price for concluding transactions on the balancing energy market for upward regulation at the amount of DAM price + supplement of BGN 100/MWh, where DAM price is the IBEX EAD hour DAM price;

2. marginal price for concluding transactions on the balancing energy market for downward regulation at the amount of 30% of DAM price, where DAM price is the IBEX EAD hour DAM price, but not higher than the regulated price of HPP owned by National Electric Company EAD;

3. marginal prices under items 1 and 2 do not apply when concluding transactions for balancing energy that is purchased/sold from/to neighbouring energy systems under bilateral agreements or from a regional balancing market.

3.1.6. Cross-border issues

Regarding the technical cooperation between the EU transmission system operators and third countries, the Bulgarian TSO is in close cooperation with the operators - members of the European Network of Transmission System Operators for Electricity (ENTSO-E). In connection with the entry into force of Regulation (EU) 2019/943, ESO EAD has sent letters with a proposal for cooperation with third countries in the South East Europe Region (non-EU members of ENTSO-E: Turkey, North Macedonia and Serbia) for the coordinated calculation of inter-zonal capacity under ACER methodologies for determining the 70% threshold of the cross-zonal capacity and for the coordinated calculation of operational security.

Market coupling projects in the day-ahead timeframe

Project of market coupling with the North Macedonia market zone

At the beginning of January 2017, IBEX EAD fully joined WB6 (West Balkan 6) and all activities declared as its goals as coordinated by the Energy Community, together with ESO EAD and EWRC. During the first meeting of the representatives of all parties to the project, which took place on 12 April 2018 in Sofia, IBEX EAD signed a memorandum of understanding with the North Macedonian Electricity Transmission System Operator (MEPSO), the Energy Regulatory Commission of the Republic of North Macedonia and Electricity System operator EAD (ESO) of the Republic of Bulgaria, which memorandum set the beginning of implementing the day ahead market coupling between the two countries. In the same year, a document containing the general management conditions and the structure of the project (Terms of Reference) was drawn up and approved, on the basis of which a Steering Committee representing all project participants was selected, as well as five working groups with relevant tasks. Physical meetings of the Legal and Finance working groups were conducted and their activities commenced with the work on the development of the so-called "Legal GAP analysis" and of an agreement on general costs allocation and preparation of the project budget. Also, a detailed project activities schedule was drawn up, agreed and approved by the Project Steering Committee, together with the responsible parties and prerequisites for the implementation of the tasks (Gantt chart). A non-disclosure agreement (NDA)

between all participants was agreed and signed, allowing exchange of information on all tasks, regardless of whether it was publicly known or not. In January 2019, a cost sharing agreement was finalized, which would serve as a basis for other similar projects of the WB6 countries. The main problem of the project was the lack of a licensed exchange operator in North Macedonia. This process has been delayed, as it was previously announced that it would be operational from the beginning of 2019, but as of now it is not yet active.

In early 2020, the North Macedonian side confirmed its intention to complete the process of nominating NEMO for the market area by the end of April 2020 (i.e. before the parliamentary elections), thereby renewing the project and making possible the start of the activities according to the road map approved by the parties. It was also decided that the North Macedonian side would update the members in the project (i.e. new member of the Steering Committee, new members from the already existing MEMO, etc.)

In September 2020 the Regulator of North Macedonia adopted a decision for the designation of the Macedonian electricity market operator (MEMO) as a Nominated Electricity Market Operator (NEMO) under the partially implemented in the North Macedonian legislation CACM (Regulation 1222/2015). This allowed the market coupling project process to be resumed. After revising the MoU and ToR and drawing up a new roadmap (with a project completion horizon Q1 2022), the project has restarted. A schedule was set, the working groups arranged regular meetings and work on the tasks set out in the roadmap began. After a meeting of the group of ministers of the Energy Community (EnC) member states held on 17.12.2020, no agreement was reached on the mandatory transposition of Regulation 1222/2015 (CACM) into the legislation of the EnC member states, which left the project with the only alternative to receive explicit recommendations from the EC on the overcoming of legal problems related to the participation of a non-EU country in a market coupling with EU member states. Such recommendations are expected to come in response to a letter from the project team addressed to EC and EnC, which has already been drafted. Such recommendations could include an interstate agreement between the Republic of North Macedonia and the EC, following the example of Switzerland and the EEA countries (Norway, Iceland and Lichtenstein). At the end of March 2021 North Macedonia published a procedure (according to the procurement law) for the selection of a platform provider. Unfortunately, the procedure was unsuccessful due to a lack of participants who could fulfil the set criteria and a new one was held in February 2022. This was an extremely important milestone in the project that would allow the actual work on the coupling with the selected service provider to commence and enable an opportunity to plan the technical readiness in 2023. Regarding the regulatory framework, it is expected that EC will make a last attempt to encourage changes to the Energy Community Treaty agreed by December 2022. If this does not happen, IBEX EAD will work towards a “border per border” solution, which in principle has the EC support.

Market coupling project with the market zone of the Republic of Serbia

At the end of 2018 IBEX EAD took steps towards launching and participating in a trilateral coupling project between Bulgaria, Serbia and Croatia. After an initial, informal meeting in September in Belgrade with representatives of the market operators of the three countries, SEEPEX (Republic of Serbia), CROPEX (Republic of Croatia) and IBEX EAD, it was decided to launch the project with a common tripartite meeting between the market and transmission operators, as well as the respective energy regulators of the three countries. That was followed by signing a joint letter addressed to the regulators of the three countries, with which their support for the project was obtained, and in April 2019 the Croatian side presented the results of a feasibility analysis and specific next steps for the implementation of the project. The document was corrected and confirmed by the other parties and finally completed. An Action Plan (Roadmap) of the project is pending, which will reflect the readiness of the Republic of Serbia regarding the implementation of the EU regulatory framework in relation to the operation of the electricity markets.

Market coupling projects in the intraday timeframe

LIP 14 local project

In relation to obligations and objectives under Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on capacity allocation and congestion management, IBEX EAD and ESO EAD have already become parties to the agreement signed between all market and transmission operators for operating the intraday integrated market in Europe (IDOA - Intraday Operational Agreement) and together with the provisions of CACM GL, this agreement defines the obligations and objectives of all NEMOs (nominated electricity market operators) and transmission operators related to the operation of the single market coupling on intraday markets. In this regard, IBEX EAD officially took an initiative to join the XBID project for intraday market coupling in 2019 initially by joining in the so-called LIP 15 (Local implementation project including the Bulgarian-Romanian border), in which the market and transmission operators of Romania, Hungary, the Czech Republic, Slovenia, Croatia, Austria and Germany have already been members and which project was part of the so-called second joining wave to XBID, and subsequently on 29.11.2022 and through LIP 14, including the Bulgarian-Greek border.

The IBEX EAD initiative to join LIP 14 has been successfully implemented again thanks to the cooperation with ESO EAD, and in this project IBEX EAD would have a shipper's role again in the sense of IDOA, for as a result of joining through a second border to XBID, it has already acquired the role of a so-called "Transit Shipper".

The whole project implementation was possible thanks to the active participation of IBEX EAD in all working groups at LIP 14 regional project level (Testing WG, Project Team WG, LIP 14 Steering Committee) and at the XBID level (QARM group, XTG WG, ID SC, SIDC GL Preparation TF).

Time market units/products in the intraday local and cross-zonal market SEE CCR 15 min MTU Implementation Project

The provision of art.8 of Regulation (EU) 2019/943 of the European Parliament and of the Council of 5 June 2019 on the internal market for electricity (Regulation 2019/943) stipulates that NEMO (IBEX EAD for the market zone of the Republic of Bulgaria) should provide an opportunity for market participants to trade energy as close as possible to the time of physical delivery, while at the same time providing an opportunity to trade energy in time intervals not less than that of the settlement period of the balancing market administered by ESO EAD in its capacity as a transmission operator.in addition, under art.8, para 4 of Regulation (EU) 2019/943, an obligation has been introduced that by 1 January 2021 the imbalance settlement period (ISP) shall be 15 minutes in all scheduling areas, unless regulatory authorities have granted a derogation or an exemption.

After IBEX EAD and ESO EAD sent a request to EWRC on 28.05.2021 for a derogation according to the terms provided for in the Regulation, EWRC set a final date for the introduction of the 15 min. ISP and 15 min. MTUs (for the intraday segment) no later than 31.12.2022.

As a result of the derogation, ESO EAD and IBEX EAD launched a project to introduce 15 min. MTUs on the internal intraday market and on the Bulgarian-Romanian border, as well as a 15 min. ISP on the balancing market with a planned date of start-up in real work 01.10.2022. Request for Change (RfC) was sent on 23.07.2021 to SIDC OPSCOM (Single Intraday Coupling Operational Steering Committee) by the project parties (IBEX EAD, ESO EAD, OPCOM, Transelectrica) and all common tests at SIDC OPSCOM level were conducted in November 2021.

Work on the project was successfully completed and on 1 Oct 2022 the offering of products with a 15-minute intraday segment resolution was launched.

Realized commercial electricity exchange according to schedules of trade participants

EXCHANGES		
Realized commercial electricity exchange according to schedules of trade participants		
Border/Direction	**2021**	**2022**
	MWh	**MWh**
Bulgaria - Romania	4 671 117	5 583 182
Romania - Bulgaria	1 658 555	736 899
Bulgaria - Serbia	2 210 124	2 803 087
Serbia - Bulgaria	771 887	524 640
Bulgaria – N Macedonia	2 912 277	2 934 309
N Macedonia - Bulgaria	229 562	135 414
Bulgaria - Greece	3 657 455	3 351 023
Greece - Bulgaria	562 620	707 714
Bulgaria - Turkey	94 534	438 847
Turkey - Bulgaria	1 560 125	847 624
Physical electricity exchange between Bulgarian EPS and EPS of neighbouring countries		
Border/Direction		
	2021	**2022**
Import	**MWh**	**MWh**
Physical border - total	1 857 126	1 469 114
Including:		
- Romania	1 485 974	1 183 656
- Serbia	39 392	42 295
- N Macedonia	8 204	22 025
- Turkey	259 218	126 035
- Greece	64 338	95 103
Export		
Physical border - total	10 634 410	13 664 298
Including:		
- Romania	2 330 182	3 651 934
- Serbia	2 708 246	3 222 131
- N Macedonia	2 561 358	2 530 371
- Turkey	1 063 456	2 293 437
- Greece	1 971 167	1 966 425
Physical exchange with distribution companies		
	2021	**2022**
	MWh	**MWh**
Between ESO EAD and ERM Zapad AD	9 366 852	9 019 917
Between ESO EAD and ERP Sever EAD	5 135 643	4 825 929
Between ESO EAD and EP Yug AD	8 466 282	8 084 296
Between ESO EAD and ERP Zlatni Piasaci AD	48 382	59 122
Between ESO EAD and NRIC	309 354	333 207

3.1.7. Implementation of network codes and guidelines

In compliance with European regulations and with the aim of ensuring full transparency and publicity, in 2022 EWRC continued to fulfil its obligations under network codes and regulations. During the said period, activities were carried out on the adoption of methodologies and accompanying papers in implementation of the European regulations in order to ensure the smooth operation of the activities for the single market coupling and to ensure the necessary available cross-border transmission capacity.

3.2. Competition and market functioning

3.2.1 Wholesale markets

Data on electricity generated and installed capacities in the period 2021 - 2022 have been summarized by years in the table below:

Electricity generated by energy sources	Installed capacity in MW		Electricity generated in MWh		Change in %
	2021	2022	2021	2022	
1. NPP	**1 893**	**1 893**	**15 650 833**	**15 615 000**	**-0.23%**
2. TPP lignite coal	**3 585**	**3 585**	**16 076 443**	**19 920 231**	**23.91%**
3. TPP black and brown coal	**240**	**240**	**344 140**	**413 285**	**20.09%**
4. TPP natural gas	**1 044**	**1 076**	**2 136 970**	**1 461 015**	**-31.63%**
5. HPP, incl.	**2 867**	**2 867**	**4 149 484**	**2 975 860**	**-28.28%**
5.1. PSHPP generation	1 386	1 386	816 829	444 333	-4.60%
5.2. PSHPP pumps *	932	932	383 221	51 621	-86.53%
6. RES, incl.:	**725**	**930**	**1 230 356**	**1 514 767**	**23.12%**
6.1. WPP	358	358	739 923	769 315	3.97%
6.2. PvPP	342	548	403 654	647 006	60.29%
6.3. Biomass PP	25	25	86 779	98 447	13.45%
Total: 1+2+3+4+5+6	**10 354**	**10 592**	**39 588 226**	**41 900 158**	**5.84%**

** the PSHPP pumps work represents electricity consumption and the electricity volumes under 5.2 are not included in the sum in item 5*

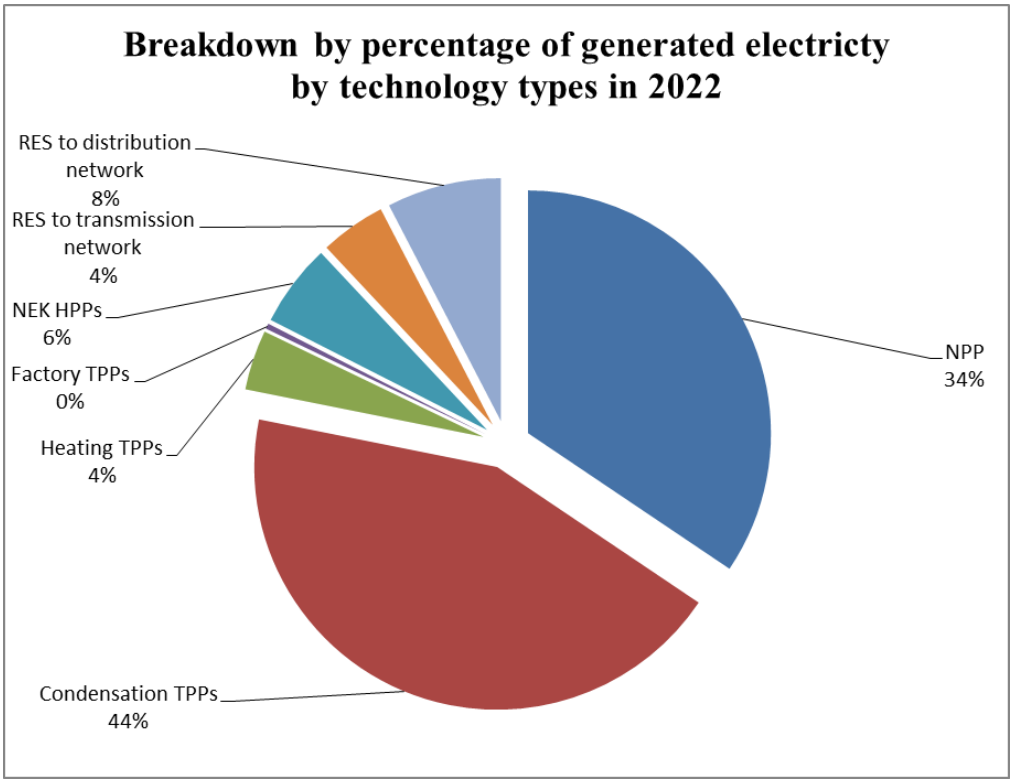
Data used for the installed capacities connected to the transmission network and the generated net electricity in 2021 and 2022 has been provided by ESO EAD. Total amount of electricity generated by those capacities was 41 900 158 MWh.

When analysing the differences between the generated electricity quantities of the plants connected to the electricity network for 2022, in comparison to 2021, the following trends can be observed: an increase in the generation by TPP lignite coal (23.91%), an increase in TPP black and brown coal (20.09%), a decrease in TPP gas generation (31.63%) and in HPP (28.28%). An increase in the electricity generation from renewable energy sources has been observed (23.21%) due to new capacities in photovoltaic plants. Coal and nuclear power had the highest year-by-year shares.

The next table presents the installed capacity in MW, connected to the electricity distribution networks and the energy produced in 2022 in MWh.

	ERM Zapad EAD		EP Yug AD		ERP Sever EAD		ERP Zlatni Piasaci AD	
	Installed capacities	Generated electricity	Installed capacities	Generated electricity	Installed capacities	Generated electricity	Installed capacities	Generated electricity
Coal	37.22	26 607	0.00	0.00	0.00	0		
Natural gas	0.0	177 415	21.01	52035.63	225.28	119 624		
HPP	222.16	563 406	95.79	231626.14	14.78	24 387		
WPP	18.57	23 053	47.90	57893.85	295.35	648 863		
PvPP	269.84	305 844	662.91	826773.11	219.44	227 466	0.71	93
Other	13.65	49 233	28.62	87385.13	5.91	28 551		
Total	**561.44**	**1 145 557**	**856.23**	**1 255 714**	**760.76**	**1 048 891**	**0.71**	**93**

Generated electricity total amount in Bulgaria in 2022 (45 350 413 MWh), distributed depending on the primary energy source and the technology used for generation, has been systemised in the next figure. Electricity generation largest share belonged to condensation TPP (44% or 19 820 829 MWh) and NPP (34% or 15 615 000 MWh) followed by RES (around 12% or 5 435 299 MWh).



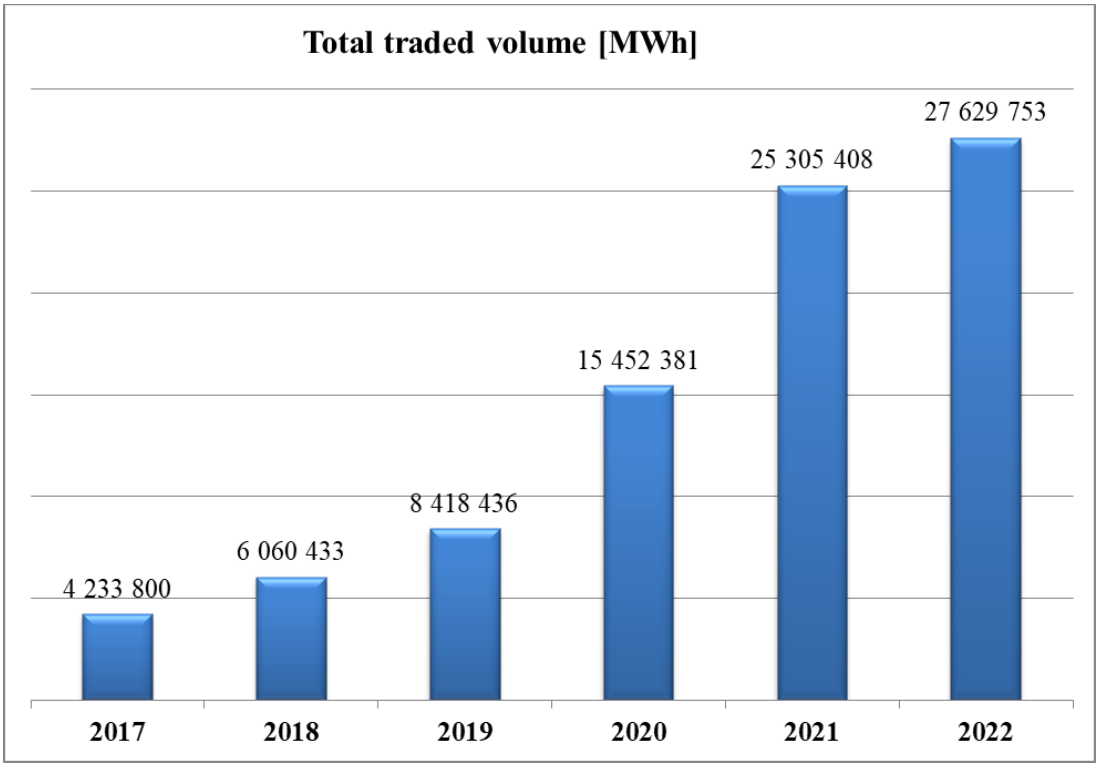
Monitoring the level of prices, the level of transparency, the level and effectiveness of market opening and competition

In connection with the obligation under Art.59, par.1(n) of Directive (EU) 2019/944, EWRC monitors the level of transparency, including wholesale prices, and ensures that electricity companies fulfil transparency obligations. In this regard, an analysis of the wholesale trade in electricity has been made.

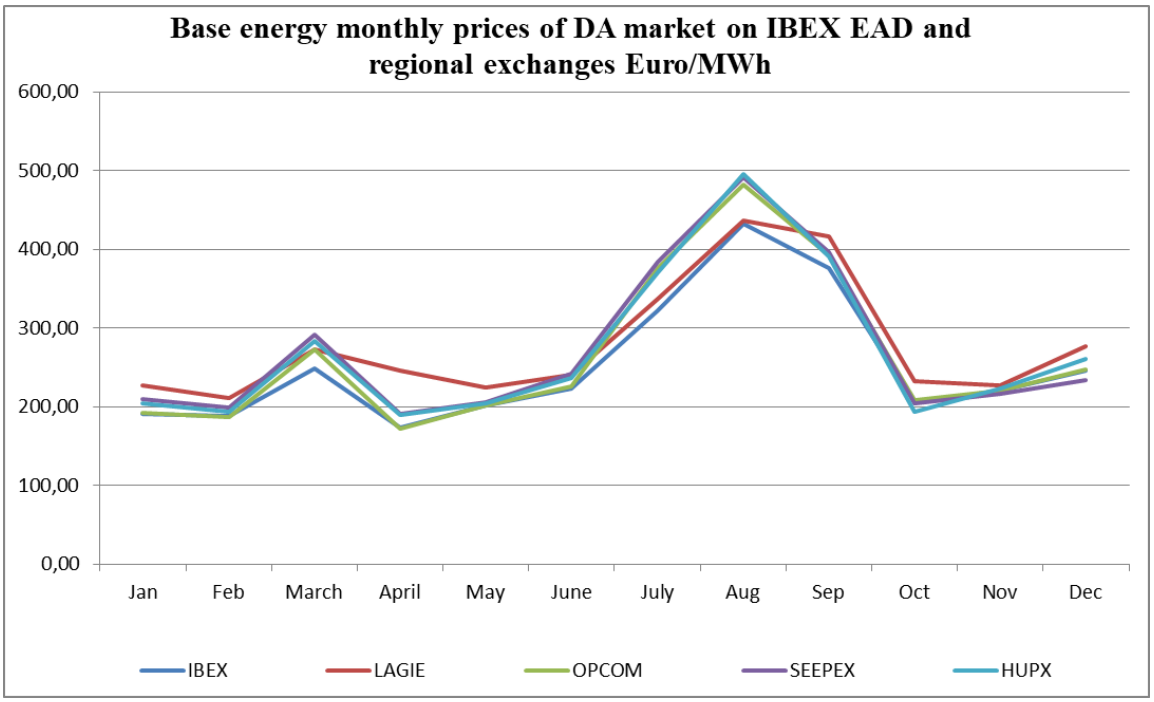
The main wholesale trade is carried out through the three segments of the Independent Bulgarian Energy Exchange EAD (IBEX EAD), namely day-ahead market, intraday market and centralized bilateral contracts market.

Day-ahead Market

In 2022 day-ahead market base energy traded volumes (Figure 2) increased by 2 324 345 MWh or by 9% compared to 2021. The biggest volume increase in absolute value has been reported in 2021 with almost 64% as for previous years the increase was by 7 033 945 MWh in 2020 compared to 2019, by 2 358 003 MWh in 2019 compared to 2018 and by 1 826 633 MWh in 2018 compared to 2017.



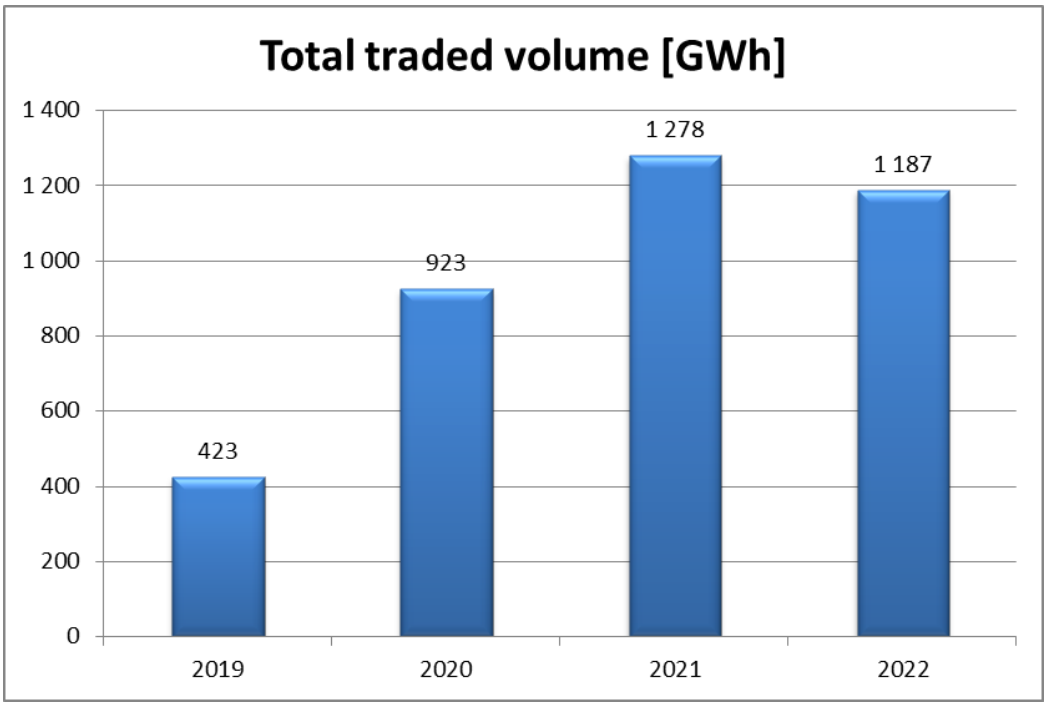
The next figure presents a comparative analysis of IBEX EAD and regional exchanges day-ahead market prices and traded volumes.



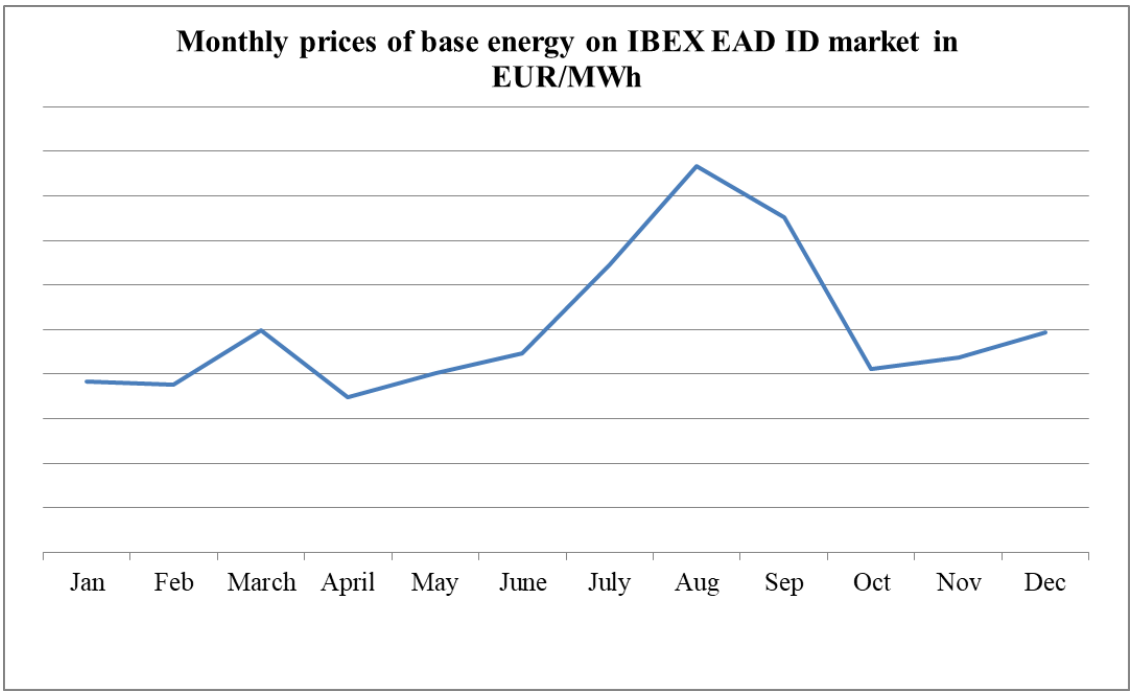
The comparative analysis includes the average monthly baseload prices Euro/MWh in 2022 day-ahead market traded volumes on the following regional power exchanges: IBEX (Bulgaria), LAGIE (Greece), OPCOM (Romania), SEEPEX (Serbia) and HUPX (Hungary).

Intraday Market

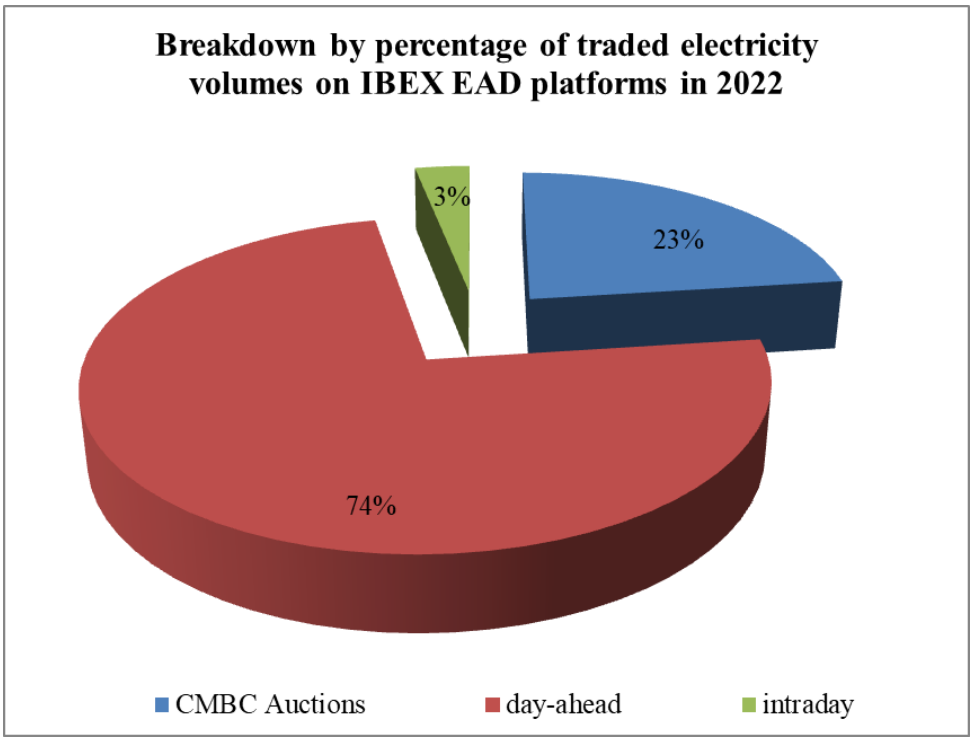
In 2022 the day-ahead market total traded volume was 1 187 GWh in comparison to 1 278 GWh in 2021 and 423 GWh in 2019.



The graph below shows the average monthly prices of base energy traded on IBEX EAD intraday market.



The total amount of electricity traded on the IBEX EAD platforms in 2022 was 37 842 GWh: 27 954 MWh on the day-ahead market, 1 187 GWh on the intraday market and 8 700 GWh on bilateral contracts. Quantities percentage is shown on the following figure:



Summary indicators that characterize the dynamics of the wholesale electricity market development for the period 2016-2022 are shown in the table below:

Wholesale electricity market indicators	2016	2017	2018	2019	2020	2021	2022
Total electricity generation, GWh	45 040	45 430	46 531	39 476	36 799	42 521	41 900
Total number of active electricity traders	90	97	89	85	38	40	65
Total electricity consumption, excl. pumps, GWh	37 714	38 864	38 218	37 794	36 723	38 631	29 653
Import volume, GWh	3 754	3 425	3 118	4 026	3 707	1 857	1 469
Export volume, GWh	10 120	8 906	10 931	9 822	7 115	10 634	13 664

Statistical data for the day during the year with the highest electricity consumption in the country

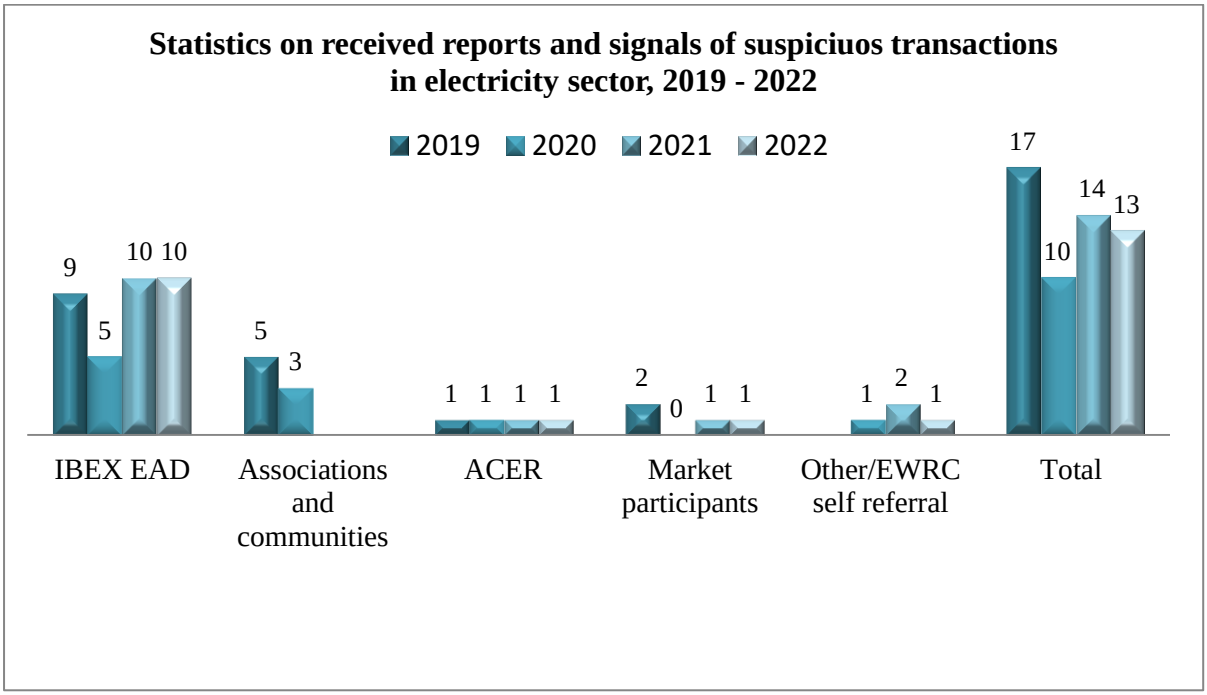
Day with highest electricity consumption in:	Electricity consumption (gross), GWh	Registered on
2016	148	Thursday, 21 Jan 2016
2017	164	Tuesday, 10 Jan 2017
2018	148	Tuesday, 27 Feb 2018
2019	150	Tuesday, 08 Jan 2019
2020	137	Tuesday, 21 Jan 2020
2021	143	Tuesday, 19 Jan 2021
2022	151	Wednesday, 26 Jan 2022

Implementation of Regulation (EU) No. 1227/2011

The Regulator's activity was aimed at ensuring equal access to the electricity and transmission capacity trading markets, trading and information relevant to determining prices and traded volumes transparency, as well as eliminating market abuses in implementation of Regulation (EU) No. 1227/2011 of the European Parliament and of the Council of 25 October 2011 on wholesale energy market integrity and transparency (REMIT, Regulation (EU) No. 1227/2011).

One of the main activities of the "Monitoring and Control of the Implementation of Regulation (EU) No. 1227/2011 of the European Parliament and of the Council of 25 October 2011 on wholesale energy market integrity and transparency" Division (REMIT Division) is finding violations of Art.3 and Art.5 of Regulation (EU) No. 1227/2011, pursuant to Chapter Seven "a" of the Energy Act.

In 2022, in accordance with Art.15 of REMIT, the REMIT Division received 10 reports on suspicious transactions from Independent Bulgarian Energy Exchange EAD (IBEX EAD). In total, for the period 2019 - 2022, 34 reports from IBEX EAD have been received regarding suspicious transactions in the electricity market. In 2022, in accordance with Art.16 of REMIT, the REMIT Division received one signal from ACER. No reports of suspicious transactions from associations and communities were registered at EWRC in 2022. One suspicious transaction alert was received from market participants. One report was submitted by an individual entity.



In the case of established initial data on market manipulation within the meaning of Art.3 and Art.5 of REMIT, the REMIT Division officials have the power to carry out a preliminary investigation. After completion of the preliminary investigation, if sufficient evidence of a violation has been established, EWRC may, by decision, initiate proceedings to establish a violation under Art.3 and/or Art.5 of Regulation (EU) No. 1227/2011. It should be noted that these investigations are carried out in partnership with ACER, in accordance with Art.16 of the Regulation. For each individual case, EWRC shall regularly exchange information on the development of cases with ACER. This exchange follows strict rules to ensure complete confidentiality and prevent leakage of information on ongoing cases outside of the REMIT Division staff.

In view of the stated requirements for guaranteeing complete confidentiality in the investigation of ongoing cases, the EA provides for the EWRC decision and minutes of sittings related to the preliminary investigation and the establishment of a violation under Art.3 and/or Art.5 of Regulation (EU) No. 1227/2011, not to be published on EWRC website. Based on the above, EWRC cannot provide specific information on the progress and outcome of ongoing investigations, as it would be in violation of the requirements of ACER and Art.74a, para 8 of EA.

Based on all received reports of suspicious transactions and signals, a total of 42 cases of preliminary investigation were formed in the REMIT Division pursuant to Art.74a of EA for the period 2019-2022, all relating to the wholesale electricity market. The formed preliminary investigations are less than the number of received reports and signals for the same period, because several signals were received for one and the same suspicious transactions. For the purpose of procedural economy and to achieve a complete clarification of the investigated cases, these signals have been incorporated into one preliminary investigation. The purpose of the preliminary investigation is to establish whether there is sufficient data in the report, on the basis of which a reasonable assumption can be made of a violation of Art.3 and/or 5 of Regulation (EU) No. 1227/2011. When EWRC considers that the suspicion of a violation is supported by the facts presented in the preliminary investigation report, it initiates proceedings to establish a violation of Art.3 and Art.5 of Regulation (EU) No. 1227/2011.

In 2022, EWRC initiated two proceedings to establish a violation of Art.3 and/or Art.5 of Regulation (EU) No. 1227/2011, and due to lack of data on committed violations, terminated 8 preliminary investigations.

In 2022, in accordance with Art.74 (n) of EA, EWRC took its first decision establishing a violation of Art.5 of Regulation No. 1227/2011 and imposed property sanctions to:

1. National electricity company EAD – BGN 625 097;
2. Interprom EOOD – BGN 336 237;
3. Energy MT EAD – BGN 144 984;
4. MostEnergy AD – BGN 34 289;
5. Grand Energy Distribution EOOD – BGN 27 337;
6. Interelectric EOOD – BGN 90 475.

In its decision, EWRC found that during the first six months of 2019 NEK EAD traded on the two IBEX EAD market segments - intraday and day-ahead exclusively with Interprom EOOD, Energy MT EAD, Grand Energy Distribution EOOD, Interelectric EOOD and Most Energy AD. In the decision EWRC detailed the types of transactions and orders that were carried out by the companies during the said period and accepted that the companies manipulated the wholesale electricity market by applying a trading model that constituted pre-arranged trading. The companies have carried out washed transactions of the ABA type, block trading and cross transactions, which fall under the category of transactions giving false/misleading signals, leading to manipulation of the wholesale electricity market, in violation of the prohibitions against market abuse under Article 5 of REMIT.

In connection with the findings of the completed proceedings, EWRC sent a signal by jurisdiction to the Sofia City Prosecutor's Office.

EWRC highly appreciates the role and support of ACER in the process of investigating the case, including the clarifications, guidelines and ideas provided regarding the interpretation of the provisions of Regulation (EU) No. 1227/2011.

In 2022, EWRC's capacity to investigate potential manipulation of organized wholesale energy markets was increased, including through human resource development, participation in ACER and CEER working groups, refinement of work processes and improvement of methodology. The REMIT Division has seriously expanded the scope of inspections by developing new tools for monitoring and controlling wholesale energy markets. The work will be significantly improved with the upcoming introduction of the specialized software package for statistical analysis and data processing developed jointly with IBM Bulgaria, which automates the monitoring and control activities of the energy market. This will increase the accuracy and objectivity of assessments of the behaviour of energy exchange participants.

With its work of investigating cases of violations under Regulation (EU) No. 1227/2011, EWRC aims to meet public expectations and ensure that consumers and other market participants can have confidence in the integrity of the electricity and natural gas markets, and that prices set in wholesale energy markets reflect the interaction between supply and demand under conditions of effective competition, and thus market participants would not be able to derive undue profits from market abuses.

Pursuant to Art.74(n) of EA and Art.155(u), para 2 of Ordinance No.3 of 21.03.2013 on licensing the activities in the energy sector, REMIT Division officials have carried out preventive, ongoing and subsequent control for compliance with the obligations under Articles 4, 8, 9 and 15 of Regulation (EU) No. 1227 /2011.

At the end of December 2022, EWRC published a message on its website reminding market participants to update their registration in CEREMP in connection with the fulfilment of their

obligation to disclose inside information pursuant to Art.4 of Regulation (EU) No. 1227/2011. That was in connection with the fact that as of 1 January 2023, insider disclosure shall only be done through insider information platforms, which means that market participants can no longer use their corporate websites for this purpose as a primary or fallback solution.

In 2022, EWRC carried out a total of 21 registrations and data updates of already registered market participants in the Centralized European Register of Market Participants - CEREMP, with the requests being approved by the REMIT Division experts. After a request has been approved and sent to ACER, the market participant receives a unique ACER code, which is necessary in order to carry out transactions on the organized markets.

Ongoing monitoring of compliance with obligations under Art.15 of the Regulation have been carried out of the following persons professionally arranging transactions (PPAT):

- Independent Bulgarian Energy Exchange EAD (IBEX EAD);
- ESO EAD.

Finding protocols with relevant prescriptions have been drawn up, incl. for the establishment of an independent market supervision unit and monitoring, control and analysis procedures in cases of suspicion/presence of market manipulations, provision and access of the REMIT Division to data on trade in the relevant market (organized exchange market or balancing services market). IBEX EAD has also been given instructions regarding certification of the platform for publishing inside information according to ACER requirements. ESO EAD has been instructed to establish a unit to monitor the balancing market and capacity auction activity and ensure the timely submission of Urgent Market Messages (UMM) to the ENTSO-E Transparency Platform.

3.2.2 Retail market

In the retail market, there are four operators of electricity distribution networks that are licensed to distribute electricity to customers connected to the distribution network at low and medium voltage level in the respective designated territories:

- ERM Zapad AD operates on the territory of 10 districts in Western Bulgaria;
- Electrodistribution North AD operates on the territory of 9 districts in North Bulgaria;
- Elektrorazpredelenie Yug EAD operates on the territory of 9 districts in South Bulgaria;
- ERP Zlatni Piasaci AD has a limited geographical area of activity in Varna region.

The market consists of three groups of suppliers from supply point of view:

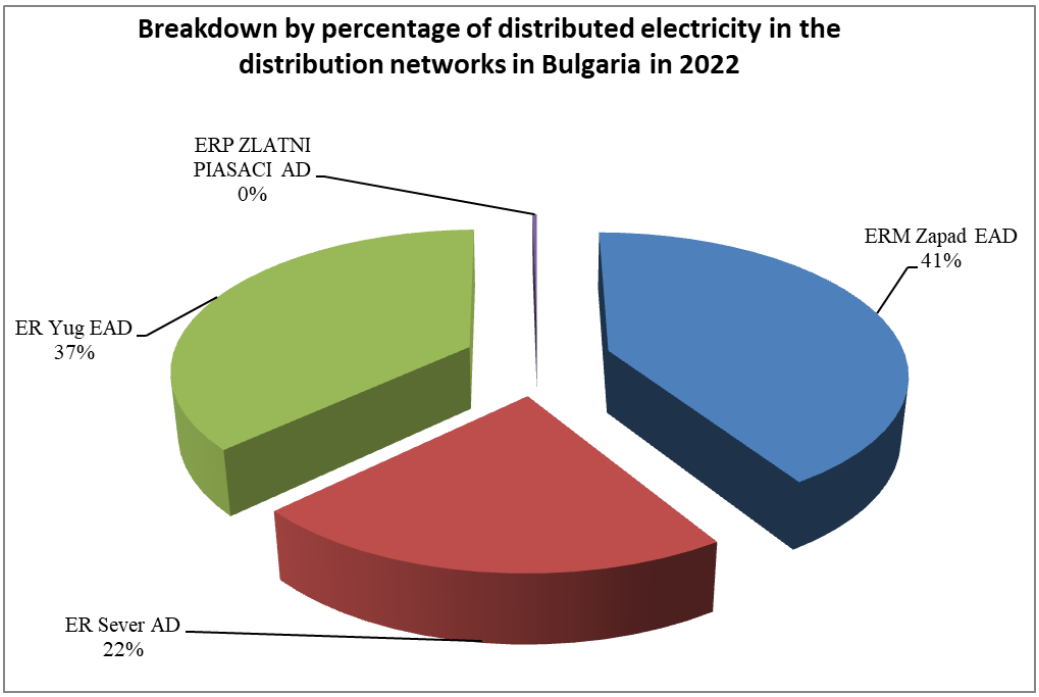
- Free market supplier - a trader/producer/exchange that supplies electricity to household and non-household customers at prices based on demand and supply;

- Supplier of last resort (SLR) – a supplier that guarantees the universal service provision as a last resort in accordance with a license obtained from EWRC. It has the obligation to supply electricity to customers connected to the distribution network that have not chosen an electricity trader or when the electricity trader they had chosen failed to provide the supply due to non-customer reasons. The SLR final selling prices are determined under EWRC methodology on electricity prices of a supplier of last resort;

- End supplier (ES) - supplies low voltage electricity to sites of household and non-household end consumers connected to the low voltage electricity distribution network at regulated prices determined by EWRC.

Energy distribution companies' market shares, as electricity volumes, distributed through their own networks, are calculated on the basis of reported by them data for 2022 by ESO EAD. The largest share of electricity transmission is traditionally for ERM Zapad EAD with 41% or 9 019 917 MWh, the second one is Elektrorazpredelenie Yug EAD with 37% or 8 084 296 MWh and third is

Electrodistribution North AD with 22% or 4 825 929 MWh. The graphic allocation is shown on the figure below:



From a demand perspective, the retail market consists of two segments: household customers and non-household customers. Total number of customers connected to distribution companies in 2022 was 5 243 173, of which household – 4 664 328. Total number of customers with an end supplier was 4 660 949, and total number of customers in the free market, including with SLR, was 582 197.

Household consumer empowerment indicators
Household customers

Consumption in the household customers market decreased in 2022 compared to 2021 by 1.85%. The reported decrease shows that a significant number of small business users have already concluded a contract with an electricity trader and purchase the volumes they need on the organized exchange market.

The number of household customers increased from 4 479 397 in 2017 to 4 664 328 in 2022. The number of household customers that changed supplier was insignificant.

Retail market indicators (households)	2017	2018	2019	2020	2021	2022
Electricity consumption, MWh	11 068 228	10 965 494	14 729 883	13 979 423	12 088 565	11 865 505
Total number of electricity household customers	4 479 397	4 495 926	4 513 355	4 544 739	4 586 448	4 664 328
Number of customers at regulated tariffs	4 476 283	4 493 660	4 511 737	4 541 659	4 581 982	4 660 949
Number of customers supplied by Supplier of last resort (SLR)	618	213	114	1 233	4 644	3 101

Number of working days between the bill payment notification and the interruption in cases of actual non-payment	3 to 40	3 to 40	3 to 41	3 to 40	3 to 40	3 to 40

Non-household customers

The number of non-household customers increased from 497 007 in 2016 to 631 433 in 2021, with a decrease of 8.33% reported in 2022. The average time for switching supplier was between 20 and 30 days for different electricity distribution companies.

Retail market indicators (non-households)	2016	2017	2018	2019	2020	2021	2022
Number of customers	496 007	605 990	611 588	624 910	629 863	631 433	578 845
Number of customers who switched their supplier	64 707	86 055	101 932	79 290	20 754	23 920	171 672
Active traders	48	45	46	45	40	40	65
Average time for switching supplier (days)	18	18	18	18	18	18	18

3.2.3 Consumer protection and dispute settlement

The terms and conditions of complaints' filing and handling are regulated by EA and by the Ordinance on licensing the activities in the energy sector. EWRC handles complaints of: networks and facilities users against transmission and distribution network operators, extraction companies, natural gas storage facilities operators and LNG operators, related to the way these entities perform their duties under EA; customers against electricity and natural gas suppliers, including end suppliers regarding their duties' performance under EA; as well as licensees against other licensees regarding their duties' performance under EA.

Within two months of filing a complaint, EWRC may assist an amicable dispute settlement. The term may be extended by another two months if the nature of the dispute requires collecting additional data and information by EWRC. The procedure is voluntary and confidential. Under the amicable disputes' settlement EWRC does not make a ruling/decision and the procedure ends with an agreement.

In case no amicable settlement has been achieved or the parties reject amicable settlement, EWRC shall decide on the complaint within two months after receiving it. That period may be extended with another two months if the character of the dispute requires gathering of additional data and information by EWRC. With the agreement of the appellant, the extended period may be extended with two more months. When EWRC finds a complaint being justified, it issues a decision with binding guidelines on the implementation of the law. EWRC decisions are subject to appeal before the Administrative Court - Sofia City within a 14-day period of their notification.

In 2022 the total number of electricity complaints filed in EWRC was 1 539; 1 354 of them were against licensed companies in the electricity sector and under the provisions of art.22, para.1 of EA, administrative proceedings have been started.

The greatest number of complaints was against ERM Zapad EAD and Electrohold Sales EAD. Next were complaints against Electrodistribution North EAD and ENERGO-PRO Sales AD, followed by Elektrorazpredelenie Yug AD and EVN Bulgaria Elektrosnabdiavane EAD. No complaints were filed against Elektrorazpredelenie Zlatni Piasatsi AD and ESP Zlatni Piasatsi OOD. Complaints against enterprises licensed for electricity trade activities mainly concerned contractual relations between the parties.

In 2022, 13 complaints were filed against ESO EAD. No complaints against NEK EAD have been registered.

In 2022, EWRC received 672 complaints from household customers against licensed electricity sector enterprises.

In EA, Chapter Three: Regulation of the activities in the Energy Sector, Section VI: Measures for Protection of Energy Service Clients of the Energy Act regulates the protection measures for power consumers that involve also:

- regulated mandatory content of the contracts signed with energy services customers;
- information provided by the energy enterprises that are contracting parties in the contracts with energy customers;
- energy enterprises draft and present for approval to EWRC rules on their work with consumers of energy services;
- energy enterprises, supplying energy, shall establish informational centres for consumers of energy services, as well as information on the work with them;
- energy enterprises, providing services of public interest shall determine special procedures for providing vulnerable consumers with information, related to consumption and supply termination to vulnerable consumers in the general conditions of supply and use of networks and in the rules on work with consumers of energy services;
- end suppliers shall inform customers, together with the last month invoice of every semester, when the electricity or natural gas metered consumption of the end customers in the said semester was higher by more than 50% of the metered consumption in the respective semester of the preceding calendar year;
- the customer may request from the electricity distribution network operator to carry out metrological expert check of commercial measuring device;
- where by initiative of the end supplier the electricity or natural gas supply to the customer is to be terminated, the end supplier shall be obliged to notify the customer thereof by a method chosen by the latter, not later than three days before the date of supplies termination. If the customer has not stated a specific method of notification, notification would be done by a method at end supplier's option.

In fulfilment of its powers, EWRC monitors the implementation of the regulated legal measures on energy services consumers' protection.

As per art.59, para 1(t) of the Directive (EU) 2019/944 of the European Parliament and of the Council of 5 June 2019 on common rules for the internal market for electricity and amending Directive 2012/27/EU**,** the regulatory authority shall have the duty to ensure non-discriminatory access to customer consumption data, the provision, for optional use, of an easily understandable harmonised format at national level for consumption data, and prompt access for all customers to such data pursuant to Articles 23 and 24 of the Directive.

As per art.38b, para.1, items 3 and 8 of EA, energy enterprises - contracting parties - shall provide for their consumers of energy services information on: actual quantities consumed and

provided service value in accordance with the agreed metering frequency at no additional cost of that service; the conditions for providing electronic billing information and electronic bills.

In accordance with art.38b, para.2 of EA, the energy supplier shall provide to its customers a wide selection of payment methods, including advance payment systems, which shall be fair and adequately representing the potential consumption.

Art.38b, para.3 of EA stipulates that the energy supplier shall provide to another energy supplier information of a household customer's consumption, if so provided in an explicit agreement between the customer and the energy supplier.

These provisions guarantee customers' access to data on energy consumption and their provision and use in an easily understandable format.

4. NATURAL GAS MARKET

4.1. Network regulation

In exercising its regulatory powers, EWRC is guided by the following basic principles: development of competitive and well-functioning regional markets within the European Union; preventing restriction or distortion of competition on the energy market; creating incentives for competitive energy market development, where the conditions so permit; creating incentives for effective development of secure, reliable and efficient networks in accordance with the customers interests. EWRC monitors gas networks development for the benefit of all participants, which will ensure sufficient and available capacity for all, monitors prevention and distortion of market competition and its effective functioning, monitors the degree and efficiency of natural gas market opening. EWRC monitors the security of supply, ensuring a balance between natural gas supply and demand on the national market, the level of expected future consumption and the estimated additional capacity under planning or construction, and the quality and level of networks maintenance and overcoming the shortage of suppliers or traders.

4.1.1. Network and LNG tariffs for connection and access

Prices for network connection, access and transmission of natural gas through transmission and/or distribution networks shall be subject to regulation by EWRC, except in the cases when the Regulator at its discretion approves a methodology determining the price for access and transmission through the transmission network. EWRC regulates and determines the terms and conditions of price formation for connection to gas transmission and distribution networks.

Regarding the prices for access and transmission of natural gas through the transmission network, EWRC has approved the Methodology for determining prices for access and transmission of natural gas through the gas transmission networks, owned by Bulgartransgaz EAD. According to Art.18a, para 1 of the Methodology for each price period by 1 March, the operator shall submit to the Regulator a proposal for: entry and exit points/zones for which access and transmission prices are set; access pricing coefficients for booking short-term capacity products based on the price of reference firm capacity; seasonal multipliers to determine the prices for the reservation of short-term capacity products; discount on the formation of access prices for booking interruptible capacity products; discount in determining access prices for entry/exit points to/from natural gas storage

facilities; discount on the formation of access prices for entry points from liquefied natural gas (LNG) facilities and for entry points from and exit points to infrastructure designed to overcome the isolation of Member States with regard to their transmission systems. EWRC shall adopt a decision to approve the multipliers, seasonal factors and discounts after carrying out a consultation in accordance with Art. 28 of Commission Regulation (EU) 2017/460 of 16 March 2017 establishing a network code on harmonised transmission tariff structures for gas (Regulation (EU) 2017/460) - art.18a, para 2 of the Methodology. By decision № M-1 of 1.06.2022 EWRC approved pricing elements for Bulgartransgaz EAD for the period 01.10.2022 - 30.09.2023. Pursuant to Art.21 of the Methodology, the tariff structure of prices for access and transmission of natural gas through the gas transmission system shall be determined by the operator. On the basis of the revenue requirements and pricing elements approved by decisions EWRC Decisions № НГП-1 of 2.10.2020 and № M-1 of 21.06.2022 Bulgartransgaz EAD has set prices for access and transmission through the gas transmission networks owned of Bulgartransgaz EAD, for the gas year 01.10.2022 - 30.09.2023. Access and transmission prices have been published on Bulgartransgaz EAD website https://www.bulgartransgaz.bg/files/useruploads/files/prozrachnost-tarifi/TAR%20Period%202022_2023/Prices_2022-2023.pdf

With regard to IGB interconnector, EWRC together with the Energy Regulatory Authority of Greece adopted a decision approving amendments to the IGB Tariff Code determining ICGB AD tariff, which is used to calculate capacity fees for capacity booking requests. The tariff depends on the requested capacity product and the entry or exit point at which capacity is booked.

Prices for natural gas access and transmission through the gas distribution network may include the following components: access price (capacity price) and transmission price (price for transported natural gas quantities) under the contract for transmission through the gas distribution network. The transmission price through the distribution network shall be formed on the basis of the approved annual revenue requirements for the approved estimated natural gas quantity for distribution. According to Art.44, para 4 of EA any persons whom have been granted natural gas distribution licenses shall not be granted licences for other activities, subject to licensing under EA, except licences for natural gas supply from an end supplier, if the customers connected to the gas distribution network in the respective area are less than 100 000. EWRC has also issued licenses for the activity “natural gas supply by end supplier” to the companies holding a license for the activity “natural gas distribution”. Prices for natural gas supply by end suppliers to customers connected to the respective gas distribution networks shall be determined on the basis of purchasing natural gas costs and approved estimated annual revenue requirements for natural gas supply. In exercising its regulatory powers with regard to price regulation, the Regulatory Authority is guided by the principles under Art.23 and Art.31 of EA. According to Art.3, para 2, item 2 of ONGPR, when applying the “price cap” method for gas distribution companies, the regulatory period lasts from 2 to 5 years. The gas distribution companies’ price regulatory period allows for avoiding large price fluctuations over the years and ensures predictability for the end customers. Energy companies shall submit applications for price approval no later than three months before the expiry of the previous price period.

There is one underground gas storage facility in Bulgaria – Chiren UGS, built on the depleted gas condensate field site near the village of Chiren, Vratsa region. Bulgartransgaz EAD is the owner and operator of Chiren UGS and provides natural gas storage services based on license № Л-214-10 of 29.11.2006 for natural gas storage issued by EWRC. Chiren UGS is connected to Bulgartransgaz EAD gas transmission network. UGS main purpose is to cover seasonal irregularities in consumption and guarantee security of natural gas supply. Tariff structure for natural gas access and storage in the storage facilities is proposed by the operator according to Art. 53 of the Guidelines on pricing natural gas access and storage in storage facilities (published State Gazette, № 2 of 9 January 2015)

applying “rate of return on capital” regulation. By Decision № Ц-34 of 13.08.2020, EWRC has approved prices for natural gas access and storage in the storage facilities to Bulgartransgaz EAD.

4.1.2. Balancing

Natural gas market balancing is performed on the basis of the approved by EWRC *Natural Gas Trading Rules, Natural Gas Market Balancing Rules* and a *Daily Imbalance and Neutrality Charge Calculation Methodology (Imbalance Methodology).*

Natural Gas Market Balancing Rules set a balancing regime in accordance with Commission Regulation (EU) № 312/2014 of 26 March 2014 establishing a Network Code on Gas Balancing of Transmission Networks (Regulation (EU) № 312/2014). Conditions have been created for the transmission system operator and all market participants to conclude transactions for short-term standardized products through a natural gas trading platform. The possibility to offer natural gas for purchase and sale through market mechanisms was enabled, so that network users can balance their balance portfolios efficiently and that the transmission system operator can use flexible natural gas products in balancing the transmission network aiming to increase natural gas market liquidity and transparency in transactions with short-term products. Imbalance methodology ensures non-discriminatory imbalance charges formation for transmission system users, creating conditions for efficient management of their balance portfolios, as well as for their responsible balancing of incoming and outgoing quantities of natural gas. Full compliance with Regulation (EU) № 312/2014 has also been achieved, in particular with the imbalance charge and the neutrality charge requirements and the credit risk management mechanisms. Clear conditions for imbalance and neutrality charges calculation have been created, both for transmission system operator and for all market participants. Network users are able to balance their balance portfolios, and prerequisites for disciplining them are established. Implementation of the methodology aims to increase short-term gas market liquidity on the territory of the country through Transparent and non-discriminatory rules as well as transparent imbalance charges, reflecting the actual balancing costs shall increase the short-term gas market liquidity in the country.

4.1.3. Cross-border issues

Transparency requirements concerning transmission system operators are set in Art.18 of Regulation (EC) № 715/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the natural gas transmission networks and repealing Regulation (EC) № 1775/2005. Each transmission system operator shall make public information on technical, contracted and available capacities on a numerical basis for all relevant important points including entry and exit points on a regular and rolling basis and in a user-friendly and standardised manner. According to Art.18, paragraph 4 of Regulation (EC) № 715/2009, the relevant points of a transmission system on which the information is to be made public shall be approved by the competent authorities after consultation with network users. In this regard, by Decision № ВТ-1 of 30.09.2022 EWRC approved an updated list of important points of Bulgartransgaz EAD transmission system, for which information on the technical, contracted and available capacities is publicly disclosed in accordance with Regulation (EC) № 715/2009. The update is related to the commissioning of the interconnection point between Bulgartransgaz EAD and ICGB AD, as well as the infrastructure construction to connect Bulgartransgaz EAD and SRBIJAGAS gas transmission networks.

In 2022 EWRC and the Energy Regulatory Authority of the Republic of Greece (RAE) adopted a Final Joint Decision on the certification of ICGB AD as an independent transmission operator.

By Decision № K-1 of 30.09.2022 EWRC adopted a Joint Decision of the Energy and Water Regulatory Commission and the Energy Regulatory Authority of the Republic of Greece on the amendment of the IGB Network Code and its annexes.

In September 2022 EWRC and RAE approved the amendment of the Final Joint Decision of the Energy and Water Regulation and the Energy Regulatory Authority of Greece on the Exemption Application of ICGB AD, as the gas pipeline's commercial operation date was changed from 1 July 2022 to 1 October 2022. On 30 September 2022 EWRC adopted a decision to authorize the start of the licence activity for natural gas transmission by ICGB.

By Decision № K-2 of 17.11.2022, EWRC adopted a Joint Decision of the Energy Regulators on the amendment of the Gas Transmission Agreement for non-exempted network users and Annex C to the IGB Network Code.

4.1.4. Implementation of network codes and guidelines

- **Capacity Allocation Mechanisms NC (CAM NC)**

Pursuant to Commission Regulation (EU) 2017/459, Bulgartransgaz EAD has introduced an electronic capacity booking platform - Regional Booking Platform (RBP). On the RBP platform network users book capacity at entry and exit gas transmission network points, using standard capacity allocation mechanisms as required by CAM NC. Registered network users have the right to book and use capacity products in the national gas transmission network. The procedures for allocating annual, quarterly, monthly, daily and intraday capacity products shall be carried out according to the timetables set out in the Capacity Auction Calendar published by ENTSO-G.

Bulgartransgaz EAD cooperates with the adjacent transmission network operators in order to coordinate the maintenance (network repairs) in accordance with Art.4 of Regulation (EU) 2017/459. The Bulgarian TSO regularly exchanges information with the adjacent transmission network operators as per Art.7 of Regulation (EU) 2017/459 on the basis of the Interconnection Agreements concluded. Firm capacity products, announced by Bulgartransgaz EAD, go through a bundling procedure under Art.19, §1 of Regulation (EU) 2017/459. If impossible to ensure the bundling at RBP of firm capacity products, as well as in case of differences between the technical and bundled capacities, these capacities shall be offered as unbundled capacity products (providing capacity at the respective interconnection point only in Bulgartransgaz EAD gas transmission network).

Pursuant to the provisions of Regulation (EU) 2017/459, ICGB AD has implemented and has been using electronic capacity booking platforms. ICGB AD network users have the opportunity to request capacity through auctions on PRISMA and RBP capacity booking platforms. Auctions for the interconnection points at Komotini with the transmission system operators TAP and DESFA have been performed on PRISMA. Auctions for the interconnection point at Stara Zagora with the Bulgarian TSO Bulgatransgaz EAD, as well as for the exit point at Kardzhali have been held on RBP. Available capacity is offered in accordance with the ENTSO-G auction calendar.

- **Balancing NC (BAL NC)**

In compliance with Regulation (EU) № 312/2014, the gas TSO Bulgartransgaz EAD has admitted the Balkan Gas Hub EAD trading platform for natural gas trade as complying with Regulation requirements and criteria. EWRC has approved the Balkan Gas Hub EAD Trading

Platform and has designated the company as an operator of the trading platform. Trading on the platform shall be carried out on an anonymous basis, in accordance with the provisions of Regulation (EU) № 312/2014. Through the platform, trading participants may post and accept, as well as revise and withdraw, bids and offers for gas purchase and sale in order to meet short term fluctuations in gas demand or supply, under the applicable rules of the trading platform, on which the transmission system operator trades for balancing actions. The trading platform offers short-term standardized products intraday and day-ahead. The platform complies with the requirements of Regulation (EU) № 312/2014 regarding the transaction notification content, the continuous trading regime for short-term standardized products, as well as the types of such products, the criteria to be met by the trading platform for providing trading participants with sufficient information to confirm the transaction after its conclusion, as well as to submit transaction notifications to the transmission system operator and to provide information on the change of the marginal purchase price and the marginal selling price after each transaction.

Marginal purchase and sale prices applicable for the purposes of determining the imbalance charge by the transmission system operator shall be calculated in accordance with the terms and conditions of the Daily Imbalance and Neutrality Charge Calculation Methodology, and shall be published by the transmission system operator. In 2022 the small adjustment to the natural gas balancing price was 8%.

For the purposes of balancing the natural gas market, the TSO introduced a Commercial Dispatching Platform (CDP), which assumed the functions of a virtual trading point (VTP). It has been operational since 1 January 2017. Network users and traders have access to CDP with individual credentials where they can submit their bids, transaction notifications and receive data on their imbalances every hour, as well as daily and monthly reports. Trade notifications are submitted directly to the CDP. A re-nomination procedure cycle has been introduced in accordance with Regulation (EU) № 312/2014 at both interconnection points, as well as at all entry and exit points in the country.

The TSO procures balancing services carried out on a market basis, through a transparent and non-discriminatory public tender procedure according to the Natural Gas Market Balancing Rules approved by EWRC, concluding gas supply contracts at the gas transmission system entry point with a maximum duration of one year. The contracts shall be concluded after a transparent, non-discriminatory and market-based procedure and in accordance with the maximum amount of possible natural gas imbalances in the gas transmission network. Purchased gas pursuant to Art.8 (b) (a) of Regulation (EU) № 312/2014 shall be stored in the TSO's gas storage facility – Chiren UGS and shall be used (extracted and injected) when necessary, depending on the cumulative imbalances of network users.

Pursuant to Regulation (EU) № 312/2014, ICGB AD provides network users with access to a virtual trading point (VTP) for balancing trading portfolios. ICGB AD VTP is included as a separate segment of the Balkan Gas Hub EAD trading platform. ICGB AD also has implemented a Daily Imbalance Charge Calculation Methodology for IGB, approved by EWRC and the Greek regulatory authority RAE.

- **Interoperability and Data Exchange NC**

In compliance with Commission Regulation (EU) № 703/2015 of 30 April 2015 establishing a network code on interoperability and data exchange rules, the TSO Bulgartransgaz EAD has signed Interconnection agreements (IA) with the Romanian gas TSO TRANSGAZ SA and Greek gas TSO DESFA SA for the interconnection points Negru Voda 1/Kardam IP, Negru Voda 2,3/Kardam IP, Ruse/Giurgiu IP and Kulata/Sidirokastron IP. Essential parts of IA are common

nomination and re-nomination procedures for booking capacity products, as well as a default nomination rule establishment.

In compliance with Commission Regulation (EU) № 703/2015, the ICGB AD has signed an Interconnection Agreement with the gas transmission system operator TAP for the Komotini TAP-IGB IP, as well as with Bulgartransgaz EAD for Stara Zagora Bulgartransgaz-IGB IP.

- **Tariff (TAR NC)**

Regulation (EU) 2017/460 provides for the obligation to carry out consultations on the proposed reference price methodology. Pursuant to Article 6 (1) of Regulation (EU) 2017/460, the reference price methodology shall be set or approved by NRA as referred to in Article 27 of Regulation (EU) 2017/460. The reference price methodology to be applied shall depend on the findings of the periodic consultations carried out in accordance with Article 26 by TSO or NRA, as decided by NRA.

In connection with the above, by Decision № РТПГ-1 of 01.12.2017, pursuant to Article 6 (1), Article 26 (1) and Article 30 of Regulation (EU) 2017/460, EWRC has designated Bulgartransgaz EAD, in its capacity as a gas transmission system operator, to conduct consultations under Article 26 of Regulation (EU) 2017/460, as well as to publish before the tariff period beginning the information under Art. 30 and the conditions set in the Regulation. Pursuant to Regulation (EU) 2017/460 and EWRC decision, Bulgartransgaz EAD held a consultation on the proposed methodology for reference price, as well as the related data, justifications and elements according to Art.26 of Regulation (EU) 2017/460.

With regard to multipliers, seasonal factors and discounts for each tariff period, pursuant to Article 28(2) of Regulation (EU) 2017/460, an obligation to carry out subsequent consultations with the national regulatory authorities of directly connected Member States and with relevant stakeholders is foreseen, and after this consultation the national regulatory authority shall take a motivated decision on the multipliers and seasonal factors levels and the calculations referred to in Article 15 of Regulation (EU) 2017/460; the discounts values referred to in Article 9, paragraph 2 and Article 16 of Regulation (EU) 2017/460. In this regard, the consultation document regarding the multipliers, seasonal factors and discounts that the TSO Bulgartransgaz EAD will apply for determining the transmission tariffs for the 2023/2024 gas year has been provided to the Regulatory Authority for Waste, Energy and Water of the Republic of Greece and to the Romanian Energy Regulatory Authority for their opinion. Following the consultation, by EWRC decision multipliers, seasonal factors and discounts to determine access prices for short-term capacity products for the period 1 Oct 2023 – 30 Sep 2024 were approved to the TSO.

4.2. Competition and market functioning

In 2022, key natural gas market participants in the country were:

- **Bulgartransgaz EAD** – combined operator, performing gas transmission and gas storage activities;
- **ICGB AD** - Gas Interconnector Greece-Bulgaria (IGB) operator;
- **Bulgargaz EAD** – public provider, ensuring gas supplies to end suppliers and to persons who have been issued a license for heat production and transmission at prices regulated by EWRC. The company also holds a license for the activity of natural gas trading issued by EWRC;
- **Gas extraction companies** – carrying out natural gas extraction on the territory of the country;

- **Gas traders** – concluding gas supply transactions with the public provider, end suppliers, customers, other gas traders, production companies, gas storage undertakings and with gas transmission and distribution network operators;
- **Gas distribution companies** – performing activities "natural gas distribution" and "natural gas supply by end suppliers" and delivering natural gas to customers connected to the distribution networks in the respective licensed territories;
- **Non-household customers** connected to the gas transmission network;
- **Non-household and household** customers connected to the gas distribution network;
- **Market Makers** – entities that have concluded an agreement with the natural gas exchange market operator for natural gas demand and supply with the purpose to provide liquidity on the natural gas exchange market and forming price signals;
- **Liquidity Providers** – entities that have concluded an agreement with the natural gas exchange market operator for demand and supply of natural gas with the purpose to provide liquidity on the natural gas exchange market.

Bulgartransgaz EAD

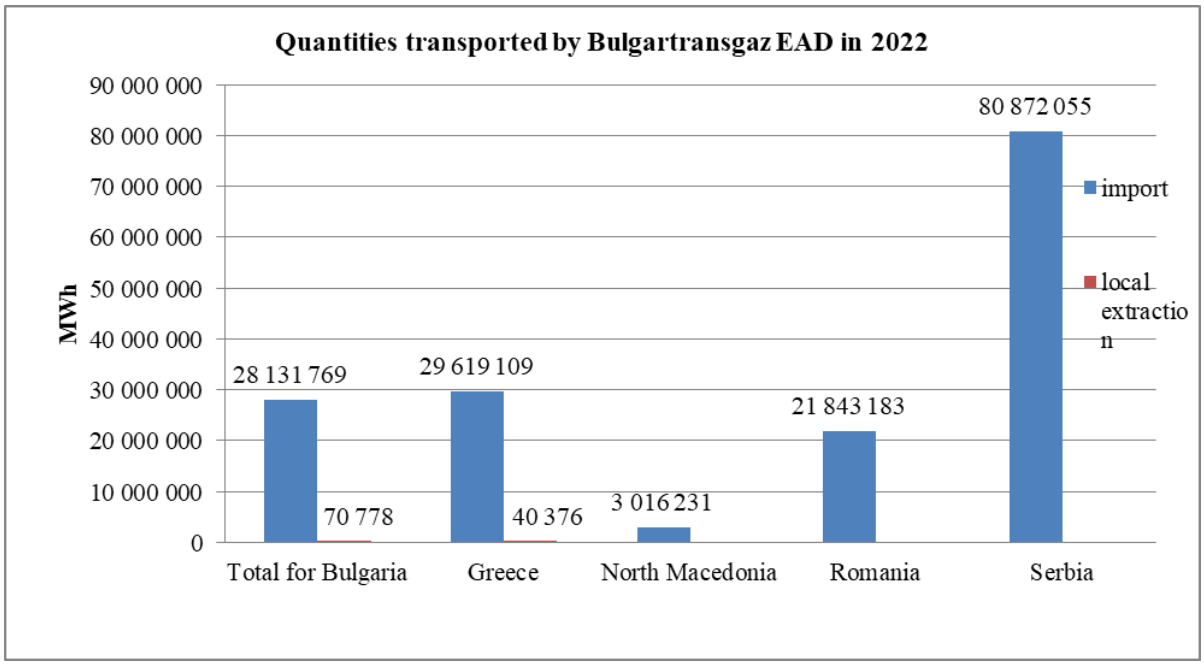
According to EA, the gas transmission network operator shall be obligated to make gas transmission network extension and reconstruction related to the connection of the gas distribution networks facilities, mining enterprises, natural gas storage facilities, LNG facilities and facilities for gas production from renewable sources, as well as non-household customers.

The total length of Bulgartransgaz EAD gas transmission networks as of the end of 2022 was 3318 km. In 2022, a new gas transmission network with a length of 42 km was built, and no new facilities were built. The company's investments made in the transmission system amounted to BGN 95 351 330. There were 228 customers connected to the Bulgartransgaz EAD gas transmission networks.

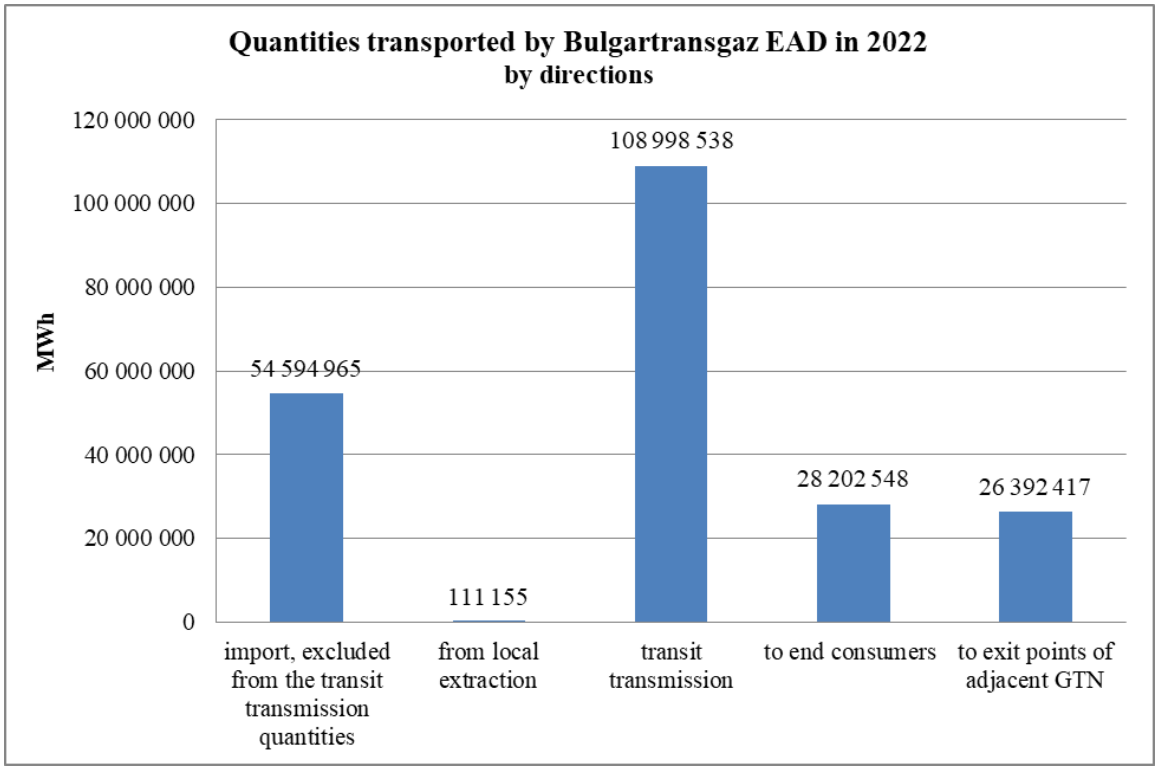
EWRC shall approve for Bulgartransgaz EAD a ten-year network development plan of the transmission network and shall monitor and control its implementation. In drawing up the 10-year plan, the transmission system operator shall take into account the information available on upcoming changes in production, supply, consumption and exchange with other countries, investment plans for regional networks and networks within EU, as well as natural gas storage facilities investment plans. The Regulator shall consult all current or potential network users on the 10-year network development plan of the transmission network in an open and transparent manner. By Decision № ДПМР-2 of 02.12.2022, EWRC approved the Ten-Year Network Development Plan of Bulgartransgaz EAD for the period 2022-2031.

The structure of gas transmission network users who carried out transmission in 2022 was as follows:
- public provider;
- two end suppliers;
- one non-houshold customer
- twenty-six natural gas traders.

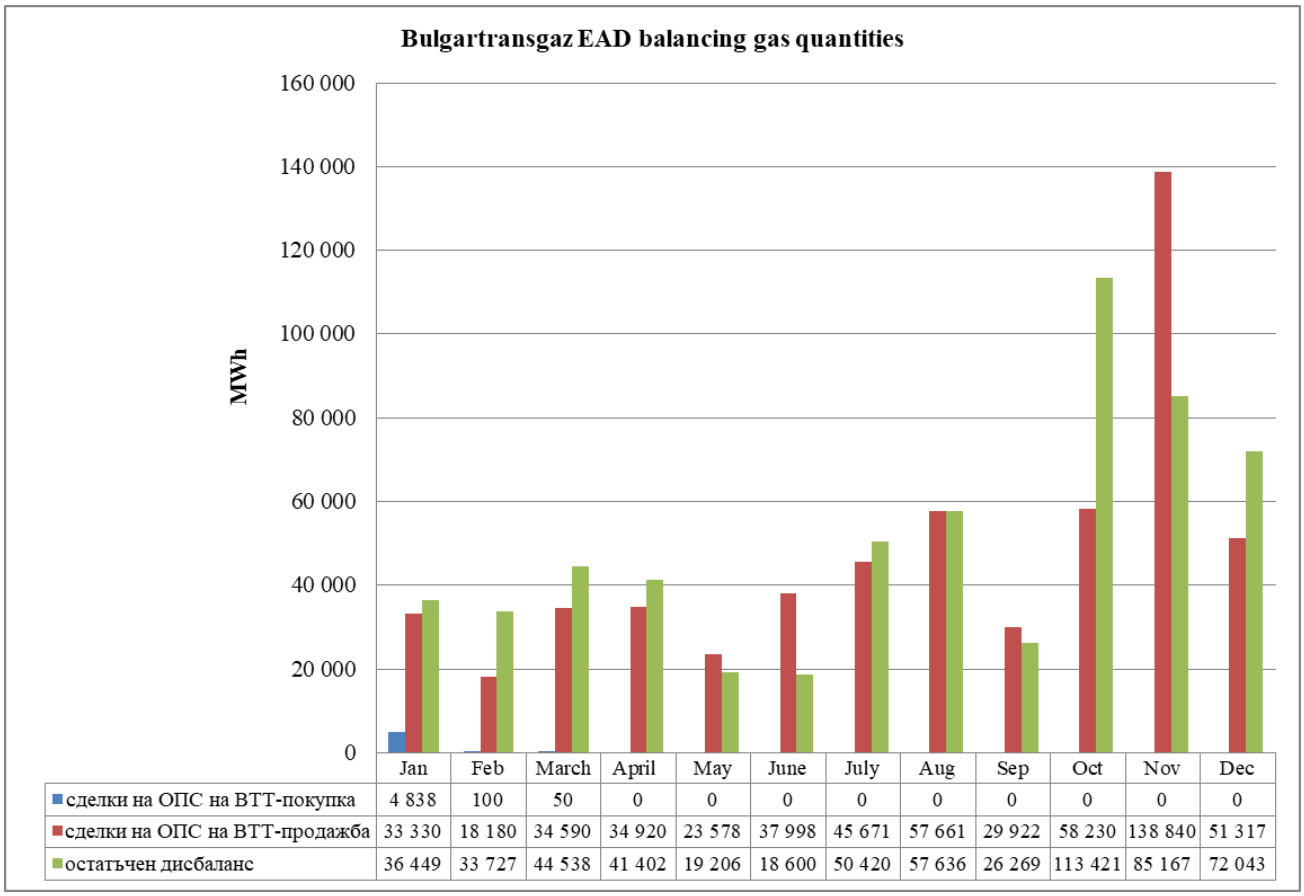
In 2022, natural gas quantities from imports and local production transported by Bulgartransgaz EAD through the gas transmission network for the domestic and foreign markets were 163 593 503 MWh and are presented in the graph:



Natural gas quantities transported by Bulgartransgaz EAD in 2022 are indicated in the graph:



For balancing the network, in 2022 Bulgartransgaz EAD made transactions at a VTP, selling 564 237 MWh and purchasing 4 988 MWh (green – residual imbalance, red – sales on VTP, blue – purchased on VTP).



	Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec
сделки на ОПС на ВТТ-покупка	4 838	100	50	0	0	0	0	0	0	0	0	0
сделки на ОПС на ВТТ-продажба	33 330	18 180	34 590	34 920	23 578	37 998	45 671	57 661	29 922	58 230	138 840	51 317
остатъчен дисбаланс	36 449	33 727	44 538	41 402	19 206	18 600	50 420	57 636	26 269	113 421	85 167	72 043

Currently there is only one underground gas storage facility in Bulgaria – Chiren UGS, which has 24 exploitation wells, a compressor station with a total installed capacity of 10 MW and other technological facilities needed to ensure the injection, production and quality of stored natural gas. Chiren UGS is operated by Bulgartransgaz EAD. The investments made in the storage facility in 2022 amounted to BGN 195 000. In 2022, 6 407 381 MWh of natural gas were injected in Chiren UGS, incl. 2 816 028 MWh under the Emergency Action Plan and 3 591 352 MWh commercial storage. Natural gas extracted in 2022 amounted to 4 263 011 MWh, incl. 2 832 683 MWh under the Emergency Action Plan and 1 430 328 MWh commercially stored natural gas. Stored natural gas for 2022 was 4 698 418 MWh, incl. 2 968 343 MWh under the Emergency Action and 1 730 076 MWh commercial storage. Through the gas quantities stored at Chiren UGS, seasonal fluctuations in supply and consumption in the country are compensated. The UGS has essential role to ensure security of gas supply in the country, provision of balancing gas, as well as to maintain gas transmission system security and stability.

ICGB AD

IGB interconnector started commercial operation on 1 October 2022. ICGB AD is the owner of IGB. IGB connects the Greek gas transmission network near the town of Komotini with the Bulgarian transmission network at Stara Zagora. The interconnector is also connected to the Transatlantic Pipeline (TAP). The overall length of IGB is 182 km (151 km in Bulgaria and 31 km in Greece) and a technical capacity of 3 bcm that could be increased to 5 bcm per year by building a compressor station.

IGB entry and exit capacity in the forward direction Greece – Bulgaria is 97 000 MWh/d and in the opposite direction Bulgaria – Greece - 87 000 MWh/d.

The total natural gas transported by ICGB AD through the pipeline for October, November and December 2022 was: 4 875 908 MW in direction Greece – Bulgaria and 18 500 MWh in direction Bulgaria – Greece. In 2022, the company did not buy or sell natural gas for balancing. The maximum daily natural gas transported was 88 252 MWh/d.

The investments made in 2022 in the IGB pipeline and its facilities amounted to BGN 100 538 000.

4.2.1. Wholesale markets

The main quantities of natural gas needed for domestic consumption are provided by imports with a small part of local production. Natural gas supply on the territory of the Republic of Bulgaria is carried out through a gas transmission network owned by Bulgartransgaz EAD for directly connected customers and through gas distribution networks (GDN), owned by the relevant gas distribution companies to which non-household and household customers are connected. Through the gas transmission network, natural gas is also transferred to neighbouring countries of the Republic of Bulgaria, as well as from and to Chiren UGS. In 2022 natural gas supply for the local market was carried out by Bulgargaz EAD, Gas Exploration and Production AD, Petroceltic Bulgaria EOOD and natural gas traders.

Bulgargaz EAD

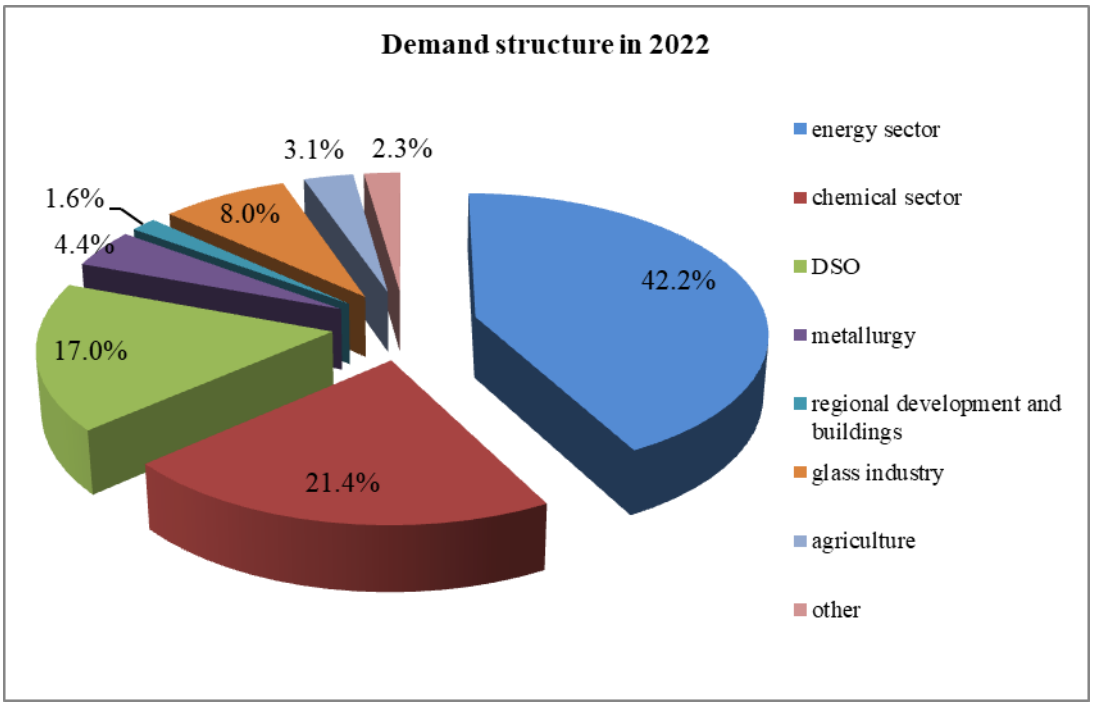
In 2022 main natural gas supplies for the local market were realized by Bulgargaz EAD. The company purchased natural gas for the domestic market under gas supply contract with OOO Gazprom Export (until April 2022), under a contract with an Azerbaijani company and from natural gas traders.

Bulgargaz EAD has purchased 30 042 342 MWh of natural gas from imports to ensure its customers demand. Natural gas purchased on the gas exchange market was 4 772 675 MWh. Natural gas purchased by Bulgargaz EAD from Bulgartransgaz EAD for balancing was 164 061 MWh. Natural gas sold by Bulgargaz EAD to Bulgartransgaz EAD for balancing was 406 893 MWh.

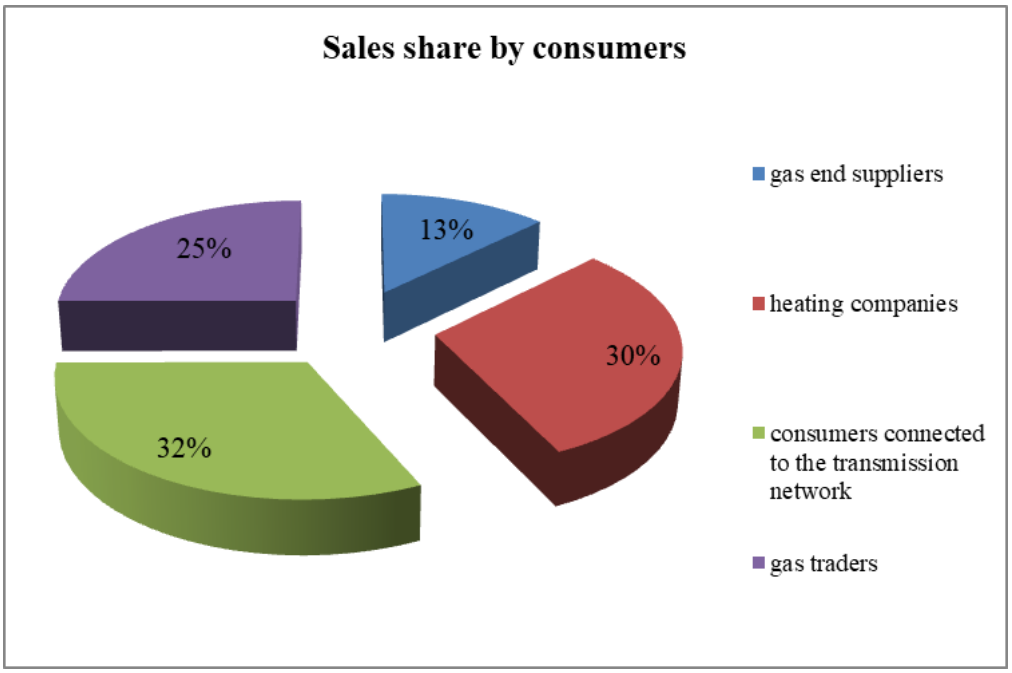
Natural gas sold by Bulgargaz EAD in Bulgaria was 28 974 345,484 MWh and natural gas sold abroad – 106 422 620 MWh.

Consumption structure of the natural gas sold by Bulgargaz EAD in 2022 was as follows:
- energy sector – 9 036 746 MWh;
- chemical industry – 4 592 553 MWh;
- distribution companies – 3 637 861 MWh;
- metallurgy – 949 247 MWh;
- regional development and construction sector – 351 274 MWh;
- glass industry – 1 705 120 MWh;
- agriculture – 664 969 MWh;
- other – 483 108 MWh.

Demand structure by industry is presented in the chart below:

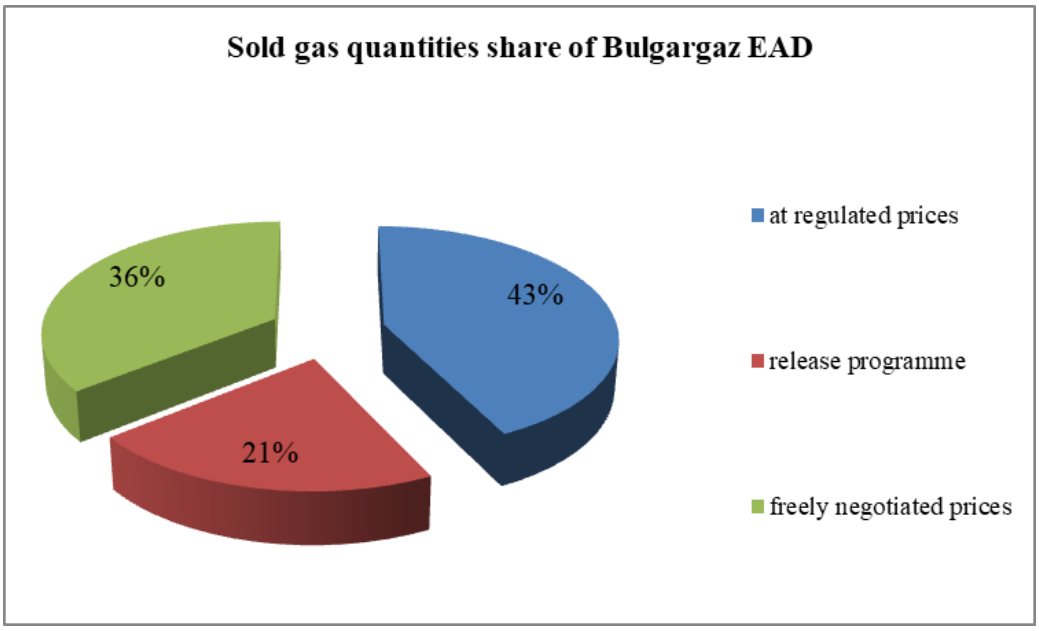


In 2022 Bulgargaz EAD sold natural gas to end suppliers, district heating companies, customers connected to the gas transmission network and natural gas traders. Share sales per clients are presented in the chart below:



In 2022 Bulgargaz EAD sold to clients in Bulgaria the following quantities of natural gas:

- at regulated prices – 12 380 868 MWh;
- under the natural gas release programme – 6 252 432 MWh;
- at freely negotiated prices – 10 341 046 MWh.



Natural gas quantities stored by Bulgargaz EAD in Chiren UGS, including the available storage, withdrdrawal and injection capacity in 2022, were as follows:

- available storage capacity as of 1 Jan 2022 – 2 071 621,192 MWh;
- withdrawal capacity – 2 507 552,629 MWh;
- injection capacity – 3 373 899,035 MWh;
- available storage capacity as of 31 Jan 2022 – 2 937 967,598 MWh.

Bulgargaz EAD customers' structure as of 31 Dec 2022 was as follows:

- at regulated price – 28;
- at freely negotiated price – 151;
- under gas release programme – 17;
- on Bulgartransgaz EAD network VTP – 1;
- on the anonymous segment – 27, incl. 24 on Balkan Gas Hub and 3 on BETP AD.

Extraction companies

Oil and Gas Exploration and Production AD and Petroceltic Bulgaria EOOD are the extraction companies in the country. The quantities of natural gas produced in the country in 2022 are as follows:

In 2022 **Oil and Gas Exploration and Production AD** extracted 63 827 MWh of natural gas and sold 57 465 MWh, of which 18 253 MWh were sold to one end customer, 18 633 MWh to two gas distribution companies and 20 582 MWh to two traders. The remaining quantities were for the company's own use. The extraction company sold no natural gas on the gas exchange market.

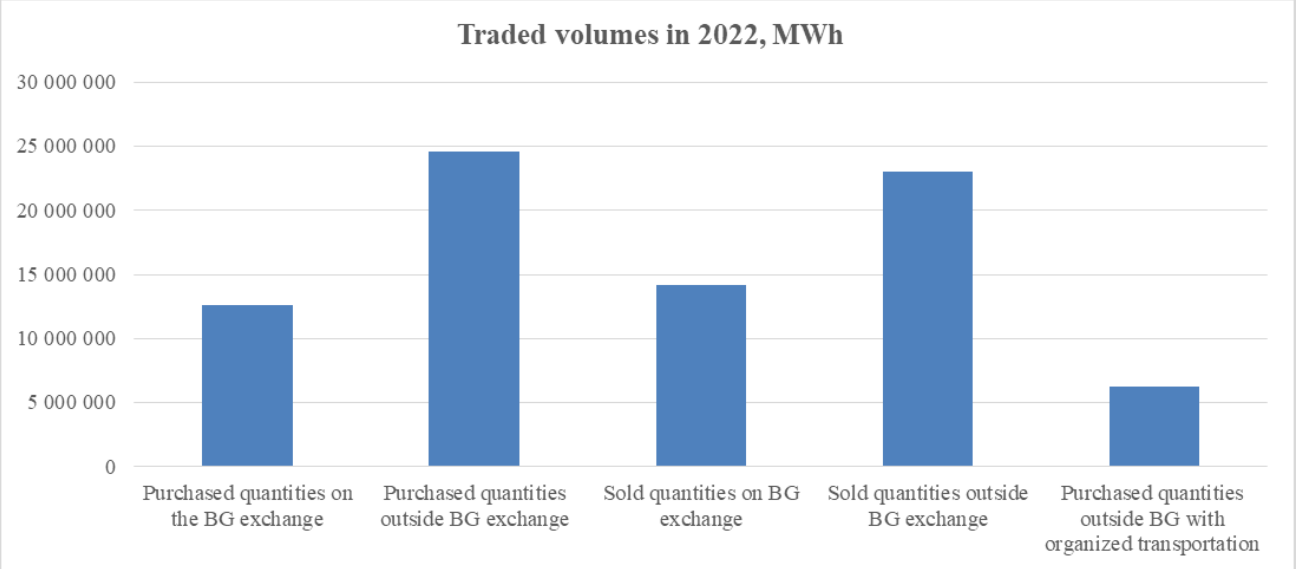
Petroceltic Bulgaria EOOD extracted 111 155 MWh of natural gas in 2022, which it sold to two natural gas traders. The company offered and sold 13 636,832 MWh natural gas on the gas exchange market.

Natural gas traders

In 2022, EWRC issued 31 natural gas trade licenses, and as of 31.12.2022 the Regulator licensed 75 companies for natural gas trade activity. The companies that traded natural gas in 2022

purchased 37 288 145 MWh, including: 12 657 966 MWh on the gas exchange market in Bulgaria and 24 630 179 MWh outside the organized exchange market in Bulgaria. The sold natural gas amounted to 37 235 272 MWh, including: 14 224 927 MWh on the organized exchange market in Bulgaria and 23 010 345 MWh outside the organized exchange market in Bulgaria. Licensed natural gas traders transported 6 288 102 MWh natural gas, purchased outside Bulgaria, through the territory of the country from entry to exit interconnection point.

Purchased and sold quantities on the gas exchange market and outside it are presented in the following graph:



Natural gas exchange markets

Balkan Gas Hub EAD trading platform

The number of registered Balkan Gas Hub EAD members as of 31.12.2022 was 64, of which about 40% were international companies with experience in trading natural gas on European markets and managed a rich portfolio. The remaining 60% of the participants were local natural gas traders, among whom large industrial natural gas consumers in the country. Compared to 2021, the number of platform members increased by 28% (from 50 to 64).

The short-term segment of the trading platform offers short-term standardized products intraday and day ahead as well as temporal and locational products for the TSO network balancing purposes. The long-term segment of the trading platform offers products traded on a medium and long-term basis - weekly, monthly, quarterly and calendar year(s). Balkan Gas Hub EAD also provides an opportunity to administer bilateral contracts.

In 2022, 7 698 transactions were concluded on Balkan Gas Hub EAD trading platform and a total of 16 324 870 MWh natural gas was traded, including from Bulgartransgaz EAD, on the different segments, as follows:

Short term segment

Number of transactions on the short-term segment increased from 5 188 in 2021 to 7 246 in 2022. In January 2022 there were 441 transactions, reaching their highest number in November 2022 – 856 transactions. The average monthly number of transactions during the year was 604. Traded quantities increased from 2 476 085 MWh in 2021 to 4 137 162 MWh in 2022.

Long-term segment (including VTP transactions and a brokerage service)

Number of transactions on the long-term segment decreased from 1 292 in 2021 to 452 in 2022. The decrease happened due to the administration of Bulgargaz EAD contracts for 2022 on another platform. In January 2022 there were 24 transactions, and in December 2022 there were 157 transactions, which was the highest number in the reporting year. The average monthly number of transactions during the year was 38. Traded quantities increased from 10 195 742 MWh in 2021 to 12 187 708 MWh in 2022.

The lowest price reached on the trading platform for a monthly product was BGN 75.00/MWh in February 2022, and the highest price reached for a monthly product was BGN 480.00/MWh in March 2022. The largest amount of natural gas for a monthly product was realized in December 2022 in the amount of 2 321 979 MWh, and the smallest amount was realized in January 2022 in the amount of 127 937 MWh.

6 252 432 MWh of natural gas were realized on the trading platform under the gas release programme (GRP). During the reporting year, 21 users out of 64 registered users were eligible to participate as potential buyers in the auctions under the gas release programme based on agreements signed with Balkan Gas Hub EAD for participation in this market segment. Auctions under the natural gas release programme shall be conducted in accordance with the auction calendar published on Balkan Gas Hub EAD website, agreed with the public provider. 6 252 432 MWh of natural gas realized by Bulgargaz EAD under the gas release programme represented 98.59% of the minimum natural gas quantities determined in EA for the year – 6 342 000 MWh. In connection with the supplies termination under one of the long-term contracts, part of the tenders according to the calendar for 2022 was not held.

By EA amendment, the gas release programme was terminated at the end of 2022.

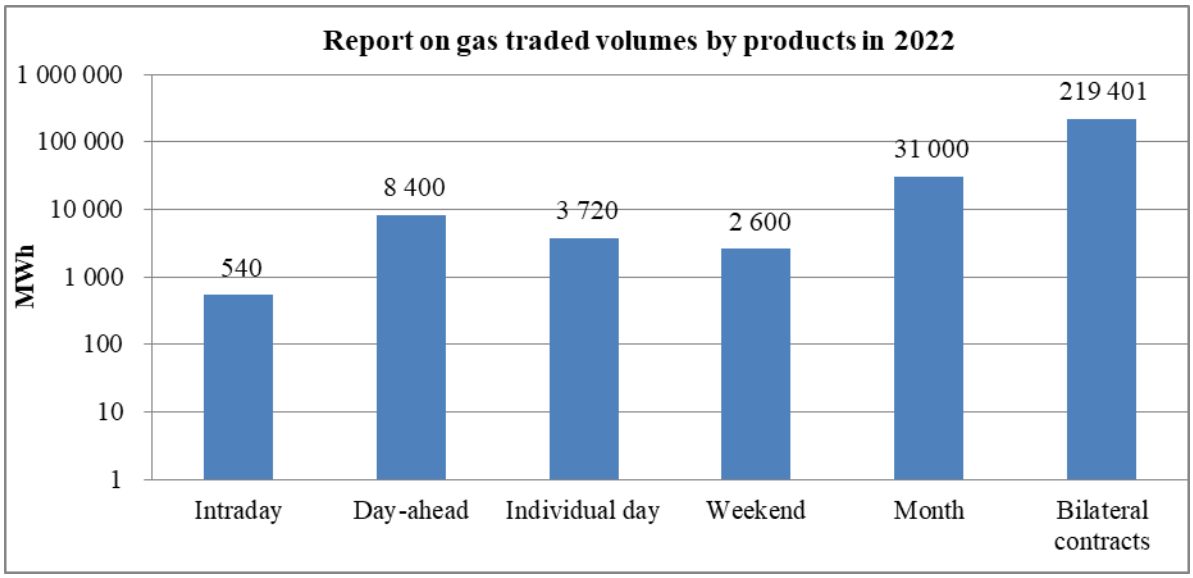
Brokering services - through which products and services for end customers are offered to natural gas consumers and end suppliers directly connected to the gas transmission system, who do not have access to the gas transmission networks and to VTP, but would like to purchase natural gas at exit points from registered BGH members for their own needs. In this case, the end customer/end supplier has the status of a non-trading user and shall not pay membership and transactions fees under the applicable price list. A non-trading user shall be entitled to use BGH brokering services by signing a Brokering Services Agreement, and shall be granted with special rights to access a specialized section of BGH website. A non-trading user shall not have access to the trading platform's screens, but shall purchase quantities at the exit point to which it is connected through registered BGH members. The total number of transactions under the BGH brokering service for the reporting year was 273.

Bulgarian Energy Trading Platform AD trading platform

As of 31.12.2022, 13 members were registered on the Bulgarian Energy Trading Platform AD (BETP AD) exchange market. By the end of 2022, 29 transactions were concluded for a total of 265 661 MWh.

The total volume traded in 2022 by product was as follows:

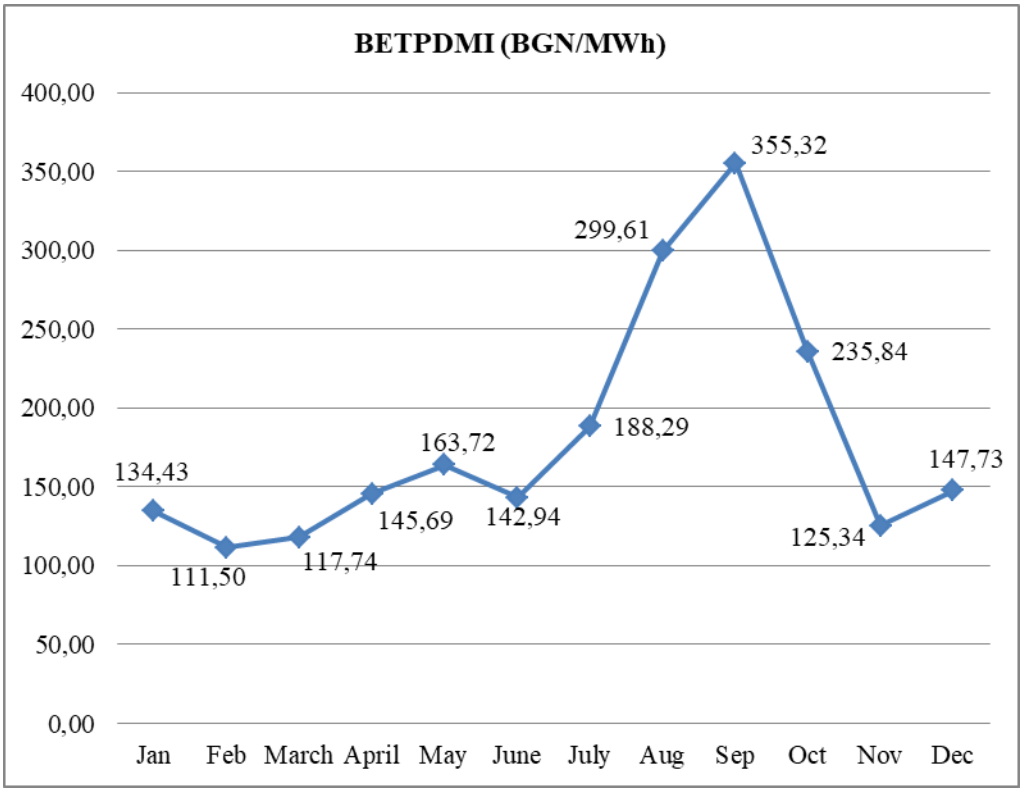
- *intraday* – 3 transactions, 540 MWh;
- *day ahead* – 11 transactions, 8400 MWh;
- *individual day* – 3 transactions, 3720 MWh;
- *weekend and holiday* – 4 transactions, 2600 MWh;
- *month* –1 transaction, 31,000 MWh;
- *bilateral contracts* – 7 transactions, 219 401 MWh.



BETP AD forms indexes that reflect the traded products price levels, formed by products traded on BETP AD market, as follows:

- Volume Weighted Average Price – VWAP;
- Reference price (Reference price) – RP;
- Weighted average price for delivery over a calendar month - BETPDMI.

For each of the trading months in 2022, BETPDMI is as follows: January – BGN 134.43/MWh; February – BGN 111.50/MWh; March – BGN 117.74/MWh; April – BGN 145.69/MWh; May – BGN 163.72/MWh; June – BGN 142.94/MWh; July – BGN 188.29/MWh; August – BGN 299.61/MWh; September – BGN 355.32/MWh; October – BGN 235.84/MWh; November – BGN 125.34/MWh and December – BGN 147.73/MWh.



4.2.2. Retail market

Non-household customers and gas distribution networks are connected to Bulgartransgaz EAD gas transmission network.

The number of non-household customers connected to the gas transmission network at the end of 2022 was 228. Most of the gas distribution networks in the country are also connected to the gas transmission network. Three gas distribution networks are connected to domestic extraction facilities and receive natural gas from local extraction, and two of these networks simultaneously receive alternative supplies. In eleven gas distribution networks gas supply is carried out by trucks delivering natural gas with bottles, due to the lack of connection between the distribution networks and the transmission network.

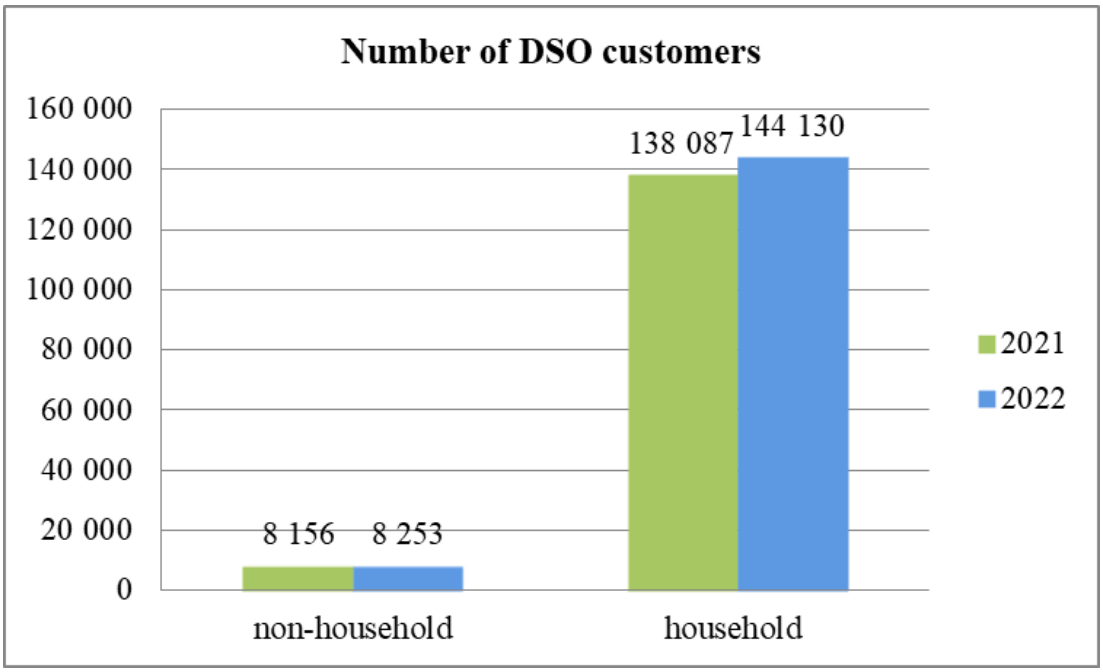
The main supplier of customers connected to the gas transmission network is Bulgargaz EAD (191 customers by the end of 2022). Supplies to those customers have also been carried out by natural gas traders.

At the end of 2022, 24 DSO companies licensed for the activities “natural gas distribution” and “natural gas supply from an end supplier”, operate in 35 license territories of Bulgaria, covering 173 municipalities, representing 65% of all municipalities in the country. Non-household and household customers are connected to the gas distribution networks of these companies. Nine companies delivered CNG supplies to customers in municipalities that have no connection to the transmission network. An important prerequisite for increasing the number of natural gas non-household and household customers in the country is the construction of gas pipelines connecting the gas distribution networks (GDN) of the licensed areas with the gas transmission network.

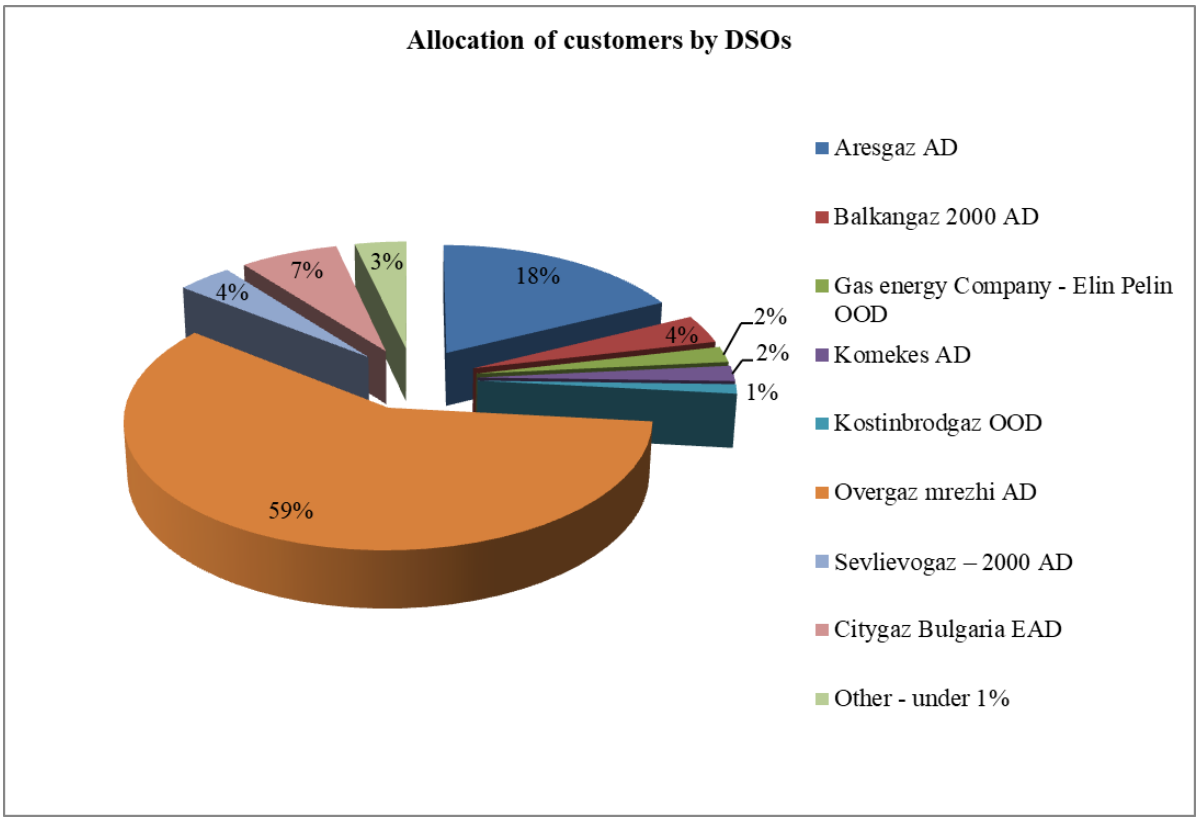
The necessary infrastructure for natural gas distribution in the country is under construction and the number of connected to the GDN household customers is low. The regulatory mechanism implemented by EWRC provides for incentives for the gas distribution enterprises to continue the development of GDN and the connection of new customers with the aim of gradually increasing their number, as well as natural gas consumption.

The constructed by gas distribution companies network in 2022 was 128 086 m, and the total length of the gas distribution network within the country was 5 587 371 m. The investments made by the distribution companies in 2022 were 32 392 000 BGN.

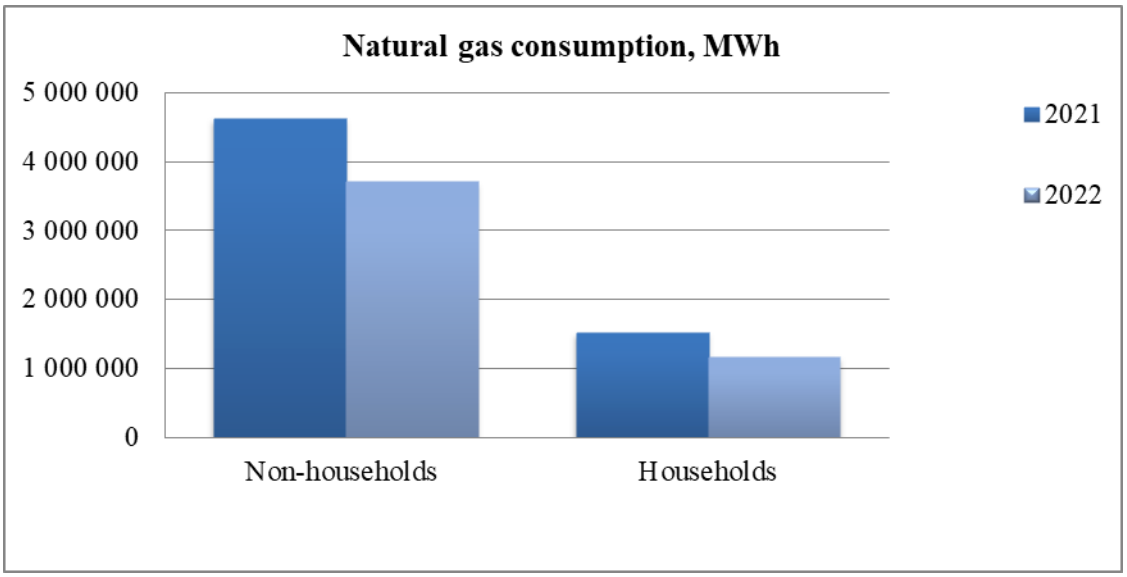
The total number of clients of the gas distribution companies as of 31 Dec 2022 was 152 383, of which non-household 8 253 (5.4%) and 144 130 household customers (94.6%). The number of customers has increased with 4.2% over one year - from 146 243 in 2021 to 152 383 in 2022, which is an increase of 4.2%. The household customers have increased by 4.4%, and the non-household – by 1.2%.



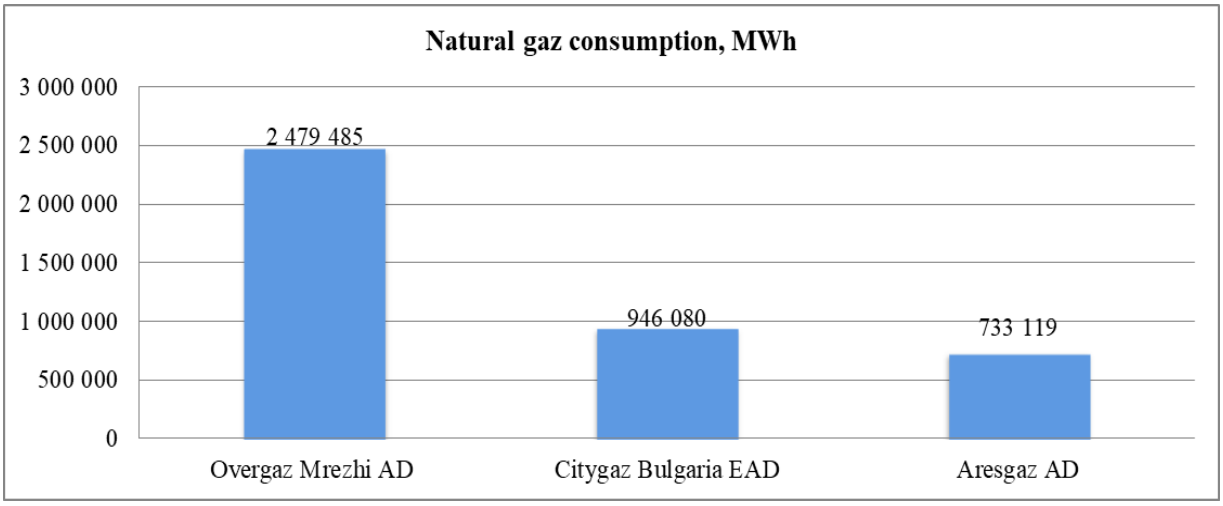
Breakdown of natural gas consumers by companies is presented in the graph below:



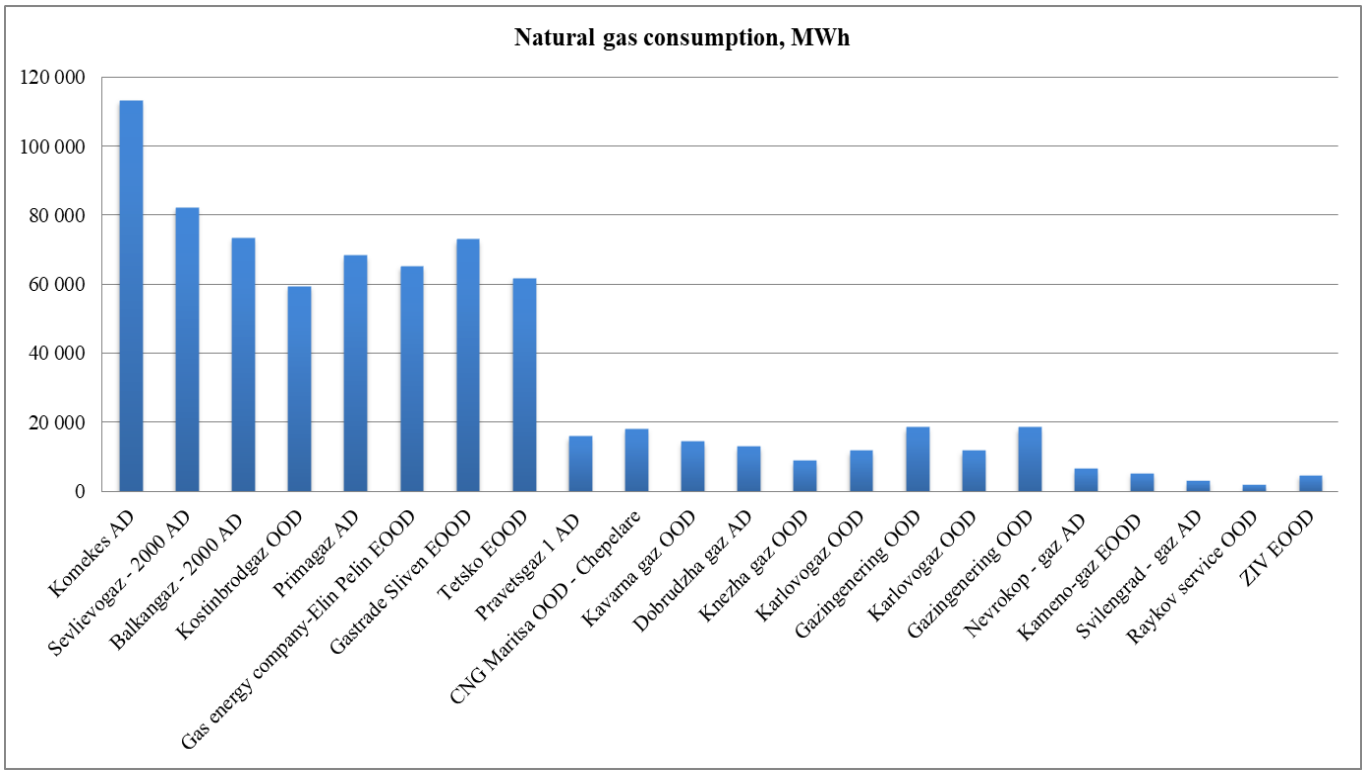
Overgas Mrezhi AD serves the largest number of customers – 89 793, which is 59% of all natural gas customers in the country, followed by Aresgas AD with 18%, Citygas Bulgaria EAD with 7%, Sevlievogas 2000 AD with 4%, Balkangas 2000 AD with 4%. Total consumption by distribution companies' customers in 2022 was 4 877 195 MWh, a decrease of 13% compared to 2021, when consumption was 5 605 628 MWh. The share of non-household customers was 76% or 3 708 562 MWh and the share of household customers was 24% or 1 168 633 MWh.



Overgas Mrezhi AD, Citygas Bulgaria EAD and Aresgas AD customers had the highest consumption:



Gas consumption of the other companies' customers is presented in the graph below:



In 2022 four non-household customers connected to the gas distribution network changed supplier, while household customers did not report a supplier change.

4.2.3. Monitoring the level of prices, the level of transparency, the level and effectiveness of market opening and competition

In exercising its regulatory powers with regard to price levels, EWRC is guided by the main principles of developing competitive and well-functioning regional markets within the European Union and preventing the restriction or distortion of competition in the energy market.

Gas price regulation is carried out in accordance with EA and Ordinance № 2 of 19 March 2013 on Natural Gas Price Regulation (ONGPR). According to EA, the prices at which end suppliers sell natural gas to customers connected to the relevant gas distribution networks, connection prices and prices for access and transmission through the transmission networks shall be subject to regulation by EWRC. The Regulator shall approve prices, at which the public provider sells natural gas to end suppliers and to entities holding a license for production and transmission of heat energy.

ONGPR sets out natural gas price regulation methods, rules for price formation or determination and amendment, procedure for providing information, submission of price proposals and their approval; methods for energy enterprises compensation of costs incurred by imposed public service obligations under EA; terms and conditions on networks connection price formation; terms and conditions on natural gas access and transmission through transmission and/or distribution networks price formation. Prices subject to regulation are formed by the energy companies in accordance with EA and ONGPR. The Regulator's guidance on price regulation is binding for energy companies. EWRC approves prices for transmission through the gas distribution networks, prices for natural sale from end suppliers and prices for connection to the gas distribution networks based on analysis of the data presented in the applications and based on reasoned justification by applicants that the proposed prices will enable the companies to realize the investment and production programme parameters in their business plans.

Prices of natural gas distribution and natural gas supply by end supplier are regulated under the price cap method under Art.3 of ONGPR. EWRC approves tariff structures by customers' groups, reflecting the allocated annual revenue requirements for the service for each consumer group, based on submitted cost service study. The existing tariff structures and prices for end customers of the gas distribution companies are differentiated depending on consumption type (household and non-household), consumption evenness and unevenness and the relevant consumption.

Gas market liberalization is an important part of European energy policy and is linked to the strategic objectives of improving security of supply and natural gas supply sources diversification, as well as building an interconnected and single pan-European gas market.

One of the main EWRC guiding principles is to prevent restriction/distortion of competition in the energy market, as well as to ensure a balance between the interests of energy companies and consumers. The Regulator monitors the existence of restrictive contractual practices and exclusivity provisions which may prevent non-household customers from concluding contracts with more than one supplier at a time or restrict their choice of suppliers. In exercising its powers, EWRC shall analyse the performance of regulated energy companies, in order to prevent abuse of monopoly position or restriction/distortion of competition in the energy market in Bulgaria. EWRC may refer to the Commission for Protection of Competition (CPC), which in turn shall review the submitted information and after assessing the data on a case-by-case basis may initiate proceedings under the Law on Protection of Competition. When, in exercising its powers, EWRC finds that a licensee distorts or restricts competition, it shall refer the matter to CPC. EWRC shall assist CPC by providing any necessary information and documents that may be used by CPC with regards to the case. In case CPC finds by a decision that the licensee distorts or restricts competition, EWRC may impose coercive measures provided for in EA, and in case of a systematic violation of competition rules established by CPC, EWRC may revoke the license.

EWRC continuously monitors the market in order to ensure non-discrimination between all market participants, as well as between participants of one and the same category and to promote efficient competition and proper market operation. EWRC is in close cooperation with the Commission for Consumer Protection (CCP), as well as with other non-governmental consumer protection organizations.

EWRC monitors the level and efficiency of market opening and competition and is guided by the following basic principles: development of competitive and well-functioning regional markets within the European Union; preventing the restriction or distortion of competition on the energy market; creating incentives for the development of the competitive market for energy activities, where conditions permit so; creating incentives for effective development of secure, reliable and efficient networks in accordance with the customers interests. EWRC monitors gas networks development for the benefit of all participants, which will ensure sufficient and available capacity for everyone and monitors market competition and its effective functioning.

Implementation of Regulation (EU) No 1227/2011

In conditions of increasing competition on the gas market and growth in the natural gas exchange trading volumes, EWRC monitors the market in order to prevent opportunities for market manipulations and in implementation of Regulation (EU) No. 1227/2011.

No signals were received from Balkan Gas Hub EAD and Bulgarian Energy Trading Platform AD (BETP AD) in 2022 for possible violations of Art.3 and/or Art.5 of Regulation (EU) No. 1227/2011. In 2022 EWRC started one official proceeding regarding a violation of Art.3 and/or

Art.5 of Regulation (EU) No. 1227/2011. In fulfilment of the requirements of Art.74n of EA, art. 155u, para.2 of Ordinance No.3 of 21.03.2013, the REMIT Division carried out preventive, ongoing and follow-up control for the implementation of Art.4, 8, 9 and 15 of REMIT.

EWRC carried out ongoing monitoring of compliance with obligations under REMIT Art.15 of the following persons professionally arranging transactions (PPATs) in wholesale energy products:

- Balkan Gas Hub EAD
- Bulgarian Energy Trading Platform AD (BETP AD)

Finding protocols with relevant prescriptions have been drawn up, including measures to ensure operational independence in preparing suspicious transaction reports and REMIT Division access to trade data on the relevant organized exchange market. In addition, questionnaires were sent to Balkan Gas Hub EAD and Bulgarian Energy Trading Platform AD regarding required monitoring mechanisms and procedures in the natural gas wholesale market.

A meeting was held with Bulgartransgaz EAD in order to clarify whether it met the criteria for a person professionally arranging transactions with wholesale energy products (PPAT).

In 2022 EWRC REMIT Division carried out a total of 13 registrations and 2 data updates of already registered gas market participants in the Centralized European Register of Market Participants – CEREMP.

4.2.4. Consumer protection and dispute settlement

EA transposes the requirements of Directive 2009/73/EC aiming to ensure effective and adequate consumers rights and interests protection, strengthen and guarantee their rights and ensure greater transparency of market relations. The requirements of Annex 1 to Directive 2009/73/EC are enforced regarding the energy services contracts content that should be disclosed to consumers prior to the conclusion or confirmation of the contract.

In exercising its regulatory powers, EWRC is guided by general principles defined in EA, including ensuring a balance between the interests of energy companies and customers, equality between different categories of energy companies and between consumer types and establishing end customers' protection measures. To protect energy customers' rights EWRC closely cooperates with the Commission for Consumer Protection, the Ombudsman of the Republic of Bulgaria, as well as a number of consumer protection NGOs.

As a specialized state authority EWRC regulates the activities in the energy sector, approves the *General conditions* of contracts provided for in EA and the *Rules on work with energy services consumers* developed by energy companies that provide services of public interest. These contracts have mandatory content defined in EA, guaranteeing consumers' rights protection. The contracts shall state: term of the contract; temporary suspension conditions, termination of service provision and of the contract; rights of energy services consumers, including information concerning the procedure of considering complaints and making decision on them, conditions for unilateral termination of the contract by the user of energy services including upon a change of the contractual conditions and prices, incl. the possibility for such termination without additional payment. They provide for conditions and procedures of setting-off and reimbursement of sums in case of failure to comply with the requirements for quality of the contracted services. Licensees providing services of public interest are obliged to guarantee consumers' rights protection and equality between customer groups in the contracts' General conditions and Rules on work with energy services consumers. EWRC shall ensure that the approved General conditions include the content of invoices or bills which reflect the actual consumption and contain specific data on the metering device number,

natural gas consumption, value added tax (VAT) and a price breakdown by components, if approved.

Energy companies shall provide to their customers information about: payment methods; prices of supply suspension or resumption; prices of maintenance services and prices of other services related to the licensed activity; procedure of switching supplier and information that energy services users do not owe additional payments when switching supplier, including a final equalizing bill at each supplier switching; a procedure of handling complaints and ruling on the actual quantities consumed, as well as the service provided value in accordance with the agreed metering frequency at no additional cost. The information shall be presented in the invoices or together with them in informational materials and on the websites of the energy companies. In accordance with that procedure, the energy and natural gas suppliers shall provide also to energy services users a checklist adopted by the European Commission, containing practical information about their rights.

Energy companies shall provide customers with detailed information on daily, week, month and annual consumption where smart metering systems are used, by providing the final customers (via the Internet or via the metering device interface) with data for a period covering not less than 24 previous months or since the entry into effect of the supply contract, if that is more recent. Natural gas suppliers shall provide customers with a wide range of payment methods, including advance payment systems that are fair and adequately reflect the expected consumption. Energy companies shall notify the domestic energy services customers of each proposed change to the contractual conditions and prices of the services provided, as well as of the customers' right to terminate the contract unilaterally within 30 days as of the notification date, if they do not accept the new conditions and/or prices. The end supplier shall inform the customer, together with the invoice, on the last month of each 6-month period, when the reported natural gas consumption of the end customer for that 6-month period is higher by more than 50 percent than the reported consumption for the respective 6-month period of the previous calendar year.

Energy companies performing natural gas supply shall establish information centres where they will both provide users with information on energy services and customers' relations.

Energy companies providing services of public interest shall determine in the General conditions for supply and networks use and in the Rules on work with users, special procedures of providing vulnerable customers with information related to consumption and suspension of supply.

Complaints handling terms and conditions are regulated by EA and Ordinance № 3 on licensing the activities in the energy sector. EWRC shall consider complaints of: networks and facilities users against transmission and distribution network operators, extraction companies, natural gas storage facilities operators and LNG operators related to the way these entities perform their duties under EA; customers against energy and natural gas suppliers, including end suppliers, regarding their duties under EA as well as licensees against other licensees regarding their duties' performance under EA.

EWRC may assist an amicable dispute settlement on a complaint. In case no amicable settlement is achieved or the parties reject amicable settlement, the Regulator shall decide on the complaint within two months after receiving it.

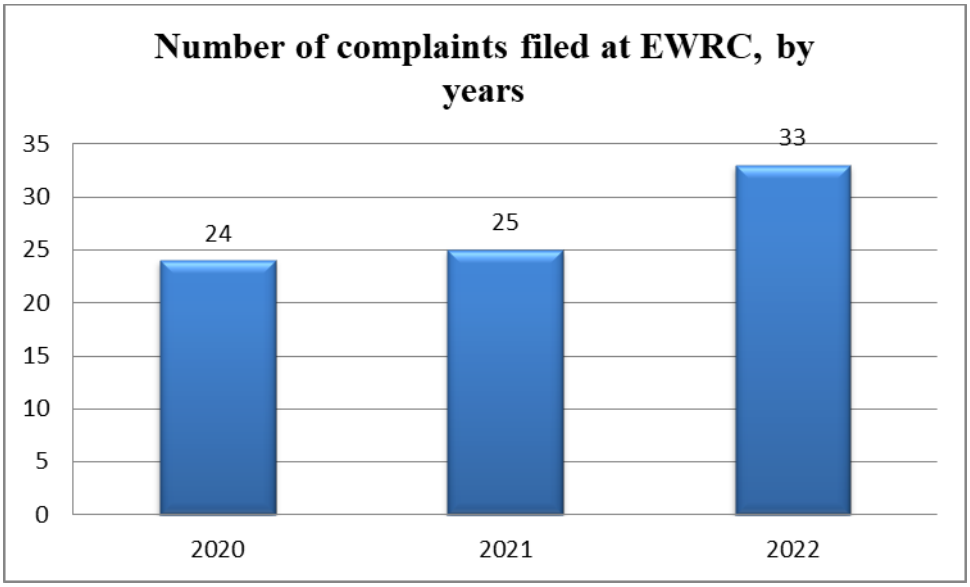
Periodically EWRC checks the licensees' obligations fulfilment regarding the creation of a specialized unit for work with consumers within the company's structure, in which a sufficient number and qualified personnel must be appointed; the maintaining of a sufficient number of customer service centres to cover the needs of the license territory; provision of services to customers in accordance with the quality indicators of natural gas supply adopted by EWRC;

maintenance of a quality management system for the licensing activity, certified by an independent competent organization; maintaining a system for receiving and processing complaints.

Complaints filed at EWRC

The total of 33 complaints in the gas sector was filed at EWRC in 2022. Of these, 32 were from customers against licensees and 1 from licensee against licensee. In addition, 7 complaints were not within EWRC competence and they were forwarded to other authorities.

The graph below presents information on complaints filed by years.



Out of 152 383 natural gas customers complaints were filed by 0.03% of those customers.

The main reason for the insignificant complaints number is the small number of gas supplied sites in the country, both household and non-household, which determines the low number of complaints filed both to the Regulatory Authority and to companies. On the other hand, the tendency to maintain a low level of complaints in the sector is due to the fact that energy companies inform the customers of their rights and obligations according to the contracts general terms and the users' procedures rules, including the manner of complaints filing and handling. Energy companies promptly examine the complaints and satisfy the reasonable ones.

EWRC shall periodically verify and control the fulfilment of licensees' obligations related to the establishment of a specialized unit for work with customers in the company structure, in which sufficient and qualified personnel must be appointed; maintaining a sufficient number of centres for work with customers to cover the needs of the licensed area; provision of services to customers in accordance with the quality indicators of natural gas supply adopted by EWRC; maintenance of a quality management system for the licensed activity, certified by an independent competent organization; maintaining a system for receiving and handling complaints.

The number of clients' complaints filed to the gas distribution companies in 2021 is 106. The customers filing these complaints represent 0.07% of all 146 243 gas distribution companies' clients in 2021. Most complaints were filed with Overgas Mrezhi AD for the licensed territory of Sofia Municipality and Bozhurishte Municipality – 40, which represents 38% of all complaints in the sector.

Complaints received at the Regulator were distributed by subject of complaint as follows:

- connection to GDN - 8;
- disagreement with amounts charged for natural gas consumption - 7;
- inaccurate metering of natural gas consumption - 2;
- disagreement with specific clauses of natural gas supply contracts – 2;
- price (disagreement with the high price of natural gas and request to change prices of natural gas distribution and supply) – 2;
- unfair trade practices (non-receipt of invoice) - 1;
- interruption of gas supply due to lack or delay in payment - 1;
- disagreement with the procedure of replacing a commercial metering device - 1;
- complaints with more than one request – 9.

A case file was created for each of the complaints and they were examined in accordance with Chapter Nine "Complaints handling and dispute settlement" of OLAES. In 2022 EWRC issued decisions on thirty-four complaints, of which five received in 2021.

The Regulator accepted two of the complaints as well-founded, giving mandatory instructions to the licensees and setting deadlines for their implementation. Under the first well-founded complaint, the mandatory instructions were not fulfilled by the company due to an appeal against EWRC's decision, and under the second well-founded complaint EWRC ruled its decision in 2023 and the company fulfilled the given mandatory instructions in time.

EWRC took decisions by which it closed the files on thirty-two complaints, as follows:

- eight of the complaints EWRC accepted as unfounded;
- in eight complaints the proceedings were terminated due to lost legal interest;
- sixteen were inadmissible and have not been examined in essence, being terminated on the basis of Art.4, para.3 of OLAES due to non-removal of irregularities within the statutory period.

EWRC did not issue decisions within the calendar year 2022 on four complaints due to the factual and legal complexity of the cases, and it is expected for the Regulator to issue decisions on these in 2023.

Complaints received in the gas distribution companies

The number of customer complaints in 2022 submitted to the gas distribution companies was 69. Customers filing the complaints were 0.05% of all 152 383 DSO customers in 2022. The largest number of 29 complaints was submitted at Overgas Networks AD for the licensed territory of Sofia and Bozhurishte municipalities, where 27% of all customers of the gas distribution companies are located. This represents 42% of all complaints in the sector.

Complaints in the gas distribution companies were differentiated as follows:

- 28 complaints related to inaccurate measurement of the consumed natural gas amount, of which 19 were satisfied and 9 were groundless;
- 11 complaints related to connection to the gas distribution network, of which 5 complaints were well-founded and satisfied, and 6 were considered groundless;
- 5 complaints related to price, of which one was justified. The complaint was about paying twice the connection price even though there were arguments that the customer had changed his option for a connection point - the complaint is upheld by EWRC decision;
- 3 complaints related to the content of issued invoices – groundless;
- 2 complaints related to unfair commercial practices (invoice non-receipt, failure to notify about a bill), of which 1 was justified and satisfied and 1 was groundless;
- 1 complaint related to compensation – groundless. The complaint was about a request for a

penalty for delay due to non-connecting of the complainant, as the delay was due to a municipality moratorium on digging;
- 1 complaint related to customer service – groundless;
- 15 other complaints, of which 7 were well-founded and accordingly satisfied, and 8 were considered groundless.

Companies use different sources to raise customer awareness about the services provided and the possibilities to receive information about disputes settlement, clarification of the customers' rights on filing complaints, and the possibility to address EWRC in case they are not satisfied with the received answer. They inform their clients via company's webpage, telephone, e-mail.

Household customers indicators	2019	2020	2021	2022
Number of household natural gas customers	112 210	124 652	138 087	144 130
Number of natural gas household customers, having been connected to the gas distribution network of the company and which have switched natural gas supplier	0	0	0	0
Number of disconnections of final household consumers due to non-payment	2 104	1 741	2493	2981
Number of working days between notification to pay a bill and disconnection in cases of non-payment in practice	18	18	18	18
Number of household vulnerable customers according to paragraph 1, item 66c of EA Supplementary Provisions	6	8	12	12
Number of household customers with smart meters	3281	5589	14 316	45 409

There has been a significant increase in installed smart meters of household customers, which increased from 3 281 in 2019 to 45 409 in 2022.

The average percentage of household customers who have been disconnected due to non-payment in the period 2019 – 2022 is relatively constant and amounts to about 2%.

Although all gas distribution companies provide their customers with information on the switching procedure and that energy service users do not owe any additional payments when changing supplier, there has been no change of supplier by household customers yet. They remain customers of the end suppliers.

4.3. Security of supply (if and insofar NRA is competent authority)

The Ministry of Energy is the state body that conducts the energy policy in the country. The Minister of Energy is the competent authority concerning security of supply in the meaning of Art.3, paragraph 2 of Regulation (EU) 2017/1938 of the European Parliament and of the Council of 25 October 2017 concerning measures to safeguard the security of gas supply and repealing Regulation (EU) № 994/2010 (Regulation (EU) № 2017/1938). Pursuant to Art.8, para.2, letters (a) and (b) of Regulation (EU) 2017/1938 the competent authority of each Member State, shall, after consulting the natural gas undertakings, the relevant organizations representing the interests of household and industrial gas customers, including electricity producers, electricity transmission system operators, and, where it is not the competent authority, the national regulatory authority, establish: a preventive

action plan containing the measures needed to remove or mitigate the risks identified, including the effects of energy efficiency and demand-side measures in the common and nationals risk assessments and in accordance with Article 9; an emergency plan containing the measures to be taken to remove or mitigate the impact of a disruption of gas supply in accordance with Article 10. In compliance to Regulation requirement, an inter-institutional group has been established, appointed by the Minister of Energy, which shall draft the above-mentioned documents. Representatives of EWRC have been included and they have participated in the documents drafting process.