



**Energy and Water Regulatory Commission (EWRC)
Bulgaria**

Annual Report to the European Commission

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LIST OF ABBREVIATIONS

ACER	Agency for the Cooperation of Energy Regulators
ANRE	Romanian energy regulatory authority
BOTAS	Turkish gas transmission operator
CBA	Cost benefit analysis
CCP	Commission for Consumer Protection
CCR	Capacity Calculation Regions
CCR SEE	Capacity Calculation Region South East Europe
CDP	Commercial dispatching platform
CEER	Council of European Energy Regulators
CEF	Connecting Europe Facility
CESEC	Central and South Eastern Europe Gas Connectivity
CPC	Competition Protection Commission
CR 3	Concentration ratio – the sum of the market shares of the three biggest market participants
DAM	Day-Ahead Market
DEPA	Greek Energy Company
DESFA	Greek gas transmission operator
EA	Energy Act
EMR	Electricity Market Rules
ENTSOE	European Network of Transmission System operators - electricity
ENTSOG	European Network of Transmission System operators – gas
EPS	Electric power system
EPSMR	Electricity Power System Management Rules
ESO EAD	Electricity system operator EAD
ETN	Electricity transmission network
EU	European union
EWRC	Energy and Water Regulatory Commission
GDN	Gas distribution network
GMS	Gas metering station
GRIPs	Gas regional investment plans
GRMB	Gas regulatory metering board
HECG	High-efficient cogeneration
HHI	Herfindahl-Hirschman Index, sum of the squares of the market shares of the participants in the relevant market
HPP	Hydroelectric power plant
IBEX EAD	Independent Bulgarian Energy Exchange EAD
IBS	Gas interconnection Bulgaria – Serbia
IDM	Intraday Market
IGB	Gas interconnection Greece – Bulgaria

ITB	Gas interconnection Turkey – Bulgaria
ITO	Independent Transmission Operator
JAO	Joint allocation office
MPNGAT	Methodology on pricing of natural gas access and transit in gas transmission networks owned by Bulgartransgaz EAD
NC TAR	Network code on harmonized tariff structures for transmission of gas
NDC	National Dispatching Centre
NEK EAD	National Electricity Company EAD
NGO	Non-governmental organization
NGTR	Natural gas trading rules
NRA	National regulatory authority
OAS of ORNGP	Ordinance amending and supplementing Ordinance № 2 of 19 March 2013 on the regulation of natural gas prices
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
OP	Operative Programme
PCI	Project of common interest
PvPP	Photovoltaic power plant
RAE	Greek energy regulatory authority
REA	Renewable Energy Act
RBP	Reginal booking platform
REMIT	Regulation (EU) № 1227/2011 on the integrity and transparency of the wholesale energy market
RES	Renewable energy sources
SIDC	Single intraday coupling
SLP	Standardized Load Profiles
SLR	Supplier of last resort
TANAP	Trans-Anatolian natural gas pipeline
TAP	Trans-Adriatic pipeline
TSO	Transmission System Operator
UGS	Underground gas storage
VTP	Virtual trading point
WPP	Wind power plant

1. FOREWORD

In 2019, the activity of the Energy and Water Regulatory Commission (EWRC, the Regulator) was focused on the electricity market liberalization, the exchange trading development, the regional connectivity of the electricity and gas markets and the active participation of the country in the European energy market.

In the electricity sector, the Regulator concentrates its efforts on creating the necessary regulatory framework for the full opening of the wholesale electricity market. The regulatory framework regarding the participation of new generators groups on the organized power exchange was adopted and market coupling was realized in the intraday segment with other 21 European countries, which promotes competition and increases liquidity. EWRC has also adopted decisions on the implementation of the regulations and network codes of the European electricity market, in order to guarantee supply, to create a competitive internal electricity market and to reduce carbon emissions.

In support of the natural gas market liberalization and integration, the Regulator has adopted a number of decisions which have increased competitiveness of the Bulgarian gas market and guaranteed unimpeded access for all participants. The leading principle in the undertaken actions was the implementation of the priorities in the sector - ensuring energy supplies, diversification of natural gas sources and routes, achieving a liquid and competitive natural gas market, development of the gas transmission infrastructure, connecting the Bulgarian market with the markets of the countries in the region. The Regulator created the regulatory framework for the development and expansion of the national gas transmission system and the construction of the Balkan Stream approved a Natural Gas Trading Platform and an Agreement for the implementation of the natural gas release program. Real natural gas trading has started on the platform of Balkan Gas Hub, the construction of the Bulgaria-Greece IGB gas interconnection has reached an advanced stage and it will ensure real diversification of natural gas suppliers.

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2. MAIN DEVELOPMENTS IN THE GAS AND ELECTRICITY MARKETS

In the electricity sector, the Regulator's efforts were aimed at full market opening and providing the required regulatory framework. The amendments to the Energy Act (EA) enabled the electricity generators with total installed capacity of 1 MW to 4 MW to sell the generated amount of electricity to the various segments of the organized power exchange market. Another major amendment to the EA abolished the obligation of market participants to pay charges for transmission and access to the electricity transmission network for export, which was a significant obstacle to the market coupling of the Bulgarian electricity market with neighbouring markets.

In connection with the EA change regarding the participation of electricity producers with a total installed capacity of 1 MW to 4 MW on the free market, EWRC adopted an amendment to the secondary regulations, namely the Electricity Market Rules (EMR) and Ordinance № 1 of 14.03.2017 on Regulation of electricity prices (OREP).

In connection with the EA change, EWRC adopted an amendment to the secondary regulations related to the electricity prices regulation (OREP).

With EMR amendment and supplement, the public relations regarding the provision of services for charging electric vehicles were settled.

On 19 Nov 2019, with the inclusion of Bulgaria, Croatia, the Czech Republic, Hungary, Poland, Romania and Slovenia, the second wave of joining the single intraday market coupling started through the Single intraday coupling (SIDC) platform. The integrated intraday market is expected to increase trade in this segment by promoting competition and increasing liquidity.

In 2019, EWRC and the Romanian regulatory body discussed the market coupling with Bulgaria and its accession to the European day-ahead market.

With the support of the regulatory authorities of Bulgaria and Greece, the electricity transmission system operators of the two countries have requested the inclusion of the Bulgarian-Greek border in the common European day-ahead market through the Italian borders. In order to achieve synchronization with the European legislation, EWRC has also adopted decisions on the implementation of regulations and network codes in the European electricity market to ensure security of supply, create a competitive internal market in electricity and reduce carbon emissions.

In EWRC's 2019 pricing decisions a balanced and conservative approach was applied, taking into account the interests of all participants, without allowing sharp price variations. In this regard, electricity prices for the regulated market remained unchanged, with final prices increased by an average of 2.90%. In terms of setting a marginal price for balancing energy transactions, EWRC has started to apply a more balanced model compared to previous years, in order to reduce shortage costs of market participants.

In 2019, the energy regulator launched two projects aimed at increasing the competence of EWRC experts – “Enhancing the analytical capacity of the Energy and Water Regulatory Commission”, implemented with the financial support of the Operational Programme “Good

Governance” and the project KEP – Know-How Exchange Programme, CEI - Central European Initiative “CEI - Central European Initiative Support for Strengthening Energy Regulatory Authorities in the Western Balkans - III phase”.

The main priorities in the gas sector in the Republic of Bulgaria are guaranteeing security of supply, ensuring a liquid and competitive natural gas market and the development of the gas transmission infrastructure. The interconnection of the Bulgarian natural gas market with the natural gas markets of the member states in the region and in Europe as a whole will contribute to the achievement of the European energy policy for the establishment of a single interconnected pan-European natural gas market.

In 2019, the Act on Amendments to the Energy Act (promulgated in the State Gazette, issue 79 of 8 Oct 2019, Amendments to the Energy Act) created preconditions for increasing competition and achieving liquidity on the organized natural gas exchange market, part of the measures being a gradual transition from a regulated market to a market at freely negotiated prices and real market liberalization. In this regard, new powers of EWRC were introduced. In pursuance of these new powers, EWRC adopted decisions that had a positive impact on the development of the gas sector liberalization processes and the proper functioning of the Bulgarian natural gas market, as part of the EU market, with a view to opening the national natural gas market, diversification and security of gas supply, as well as to reduce prices and promote market competition.

As regards its new powers to monitor and control the exchange trading under Regulation (EU) № 1227/2011 of the European Parliament and of the Council of 25 October 2011 on the integrity and transparency of the wholesale energy market (REMIT), EWRC conducted a preliminary investigation into the received signals for possible abuses and manipulations of the power exchange trade. A ruling on the validity of the signals is pending. Given the importance of the control functions under Regulation 1227/2011, the started in 2019 process of establishing a unit for monitoring of REMIT compliance led to the establishment of a specialized directorate at EWRC, which experts learned about the experience of leading European regulators for monitoring and control of national electricity markets.

2.1. Evaluation of the market development and regulation

In fulfillment of the set goals regarding market development, in 2019 significant changes were adopted in the Energy Act and in the Renewable Energy Act (REA), which in turn made it necessary for EWRC to amend and supplement the bylaws on the application of these acts. By Ordinance amending and supplementing Ordinance № 1 of 14 March 2017 on the regulation of electricity prices (promulgated, SG No. 50 of 2019, in force as of 25 June 2019, OAS OREP) the existing model of compulsory purchase of electricity from RES and from high-efficient co-generation, produced by plants with total installed capacity of 1 MW to 4 MW, dropped out. Thus, the next stage of the electricity market liberalization has been introduced, as power produced by these generators began to be traded on the various segments of the organized power exchange market.

In this context, additional powers have been delegated to the Commission related to the setting of preferential prices and premiums for electricity from renewable energy sources and from high-efficiency cogeneration of electricity produced from plants with a total installed capacity of 1 MW and over 1 MW. With the amendments to OREP, real participation introduction of electricity generators will continue in the above-mentioned manner, with a total installed electricity capacity of 1 MW and over 1 MW on the power exchange, which will contribute to continuing the current process of gradual transition from regulated prices to the market at freely negotiated prices.

There has also been a change in the price formation of access and/or transmission to/through the electricity transmission and distribution networks. The amendment of Article 104 of EA in the new paragraph 2 introduces clarity regarding the entities that should pay tariffs for access and/or transmission to/through the electricity transmission and distribution networks, including in the cases of export of electricity generated in Bulgaria. That supplement to EA required an amendment to the OREP provisions related to the approval of the respective prices and the price-forming elements. OAS OREP amended Article 26 and Article 29 of OREP, thus aiming at a fairer distribution of the respective costs between the entities that cause them, while contributing at the same time to the implementation of the principles set out in Article 23, item 4 and item 5 of EA.

The adopted change in the price formation of access and transmission will contribute to the correct and fair distribution of the respective costs for network services to entities that actually cause them, as well as will facilitate the electricity trade in the region. The elimination of these tariffs for exported electricity is one of the prerequisites for the future market coupling of national electricity markets.

When applying OREP in the pricing proceedings, gaps and inaccuracies have been identified in the existing wording of the act, in connection with the definition of the component “electricity supply by end supplier”, as well as with regard to the entities entitled to provide cold reserve, and the formation of the costs margin of the TSO for the purchase of cold reserve availability and services. To this end, in order to ensure clarity and non-ambiguity, in applying OREP changes have been made in Article 10, paragraph 4 and paragraph 5, Article 11, paragraph 5, Article 27a and Article 38, paragraph 1.

In 2019 the norms on the basis of which natural gas prices are formed and approved, were specified and supplemented with an Ordinance amending and supplementing Ordinance № 2 of 19 March 2013 on the regulation of natural gas prices (promulgated, SG No. 95 of 03.12.2019, in force as of 03.12.2019, OAS of ORNGP). OAS of ORNGP also aims to achieve a fair distribution of the public provider's costs among all its customers, regardless of whether they buy natural gas on the regulated market or at freely negotiated prices - under bilateral agreements or in connection with the implementation of the gas release programme.

The need to amend and supplement ORNGP is in order to bring it in line with the amended provisions of the EA, related to the natural gas prices regulation, namely - change of entities to which the public provider sells natural gas at a regulated price. New obligations of the public supplier have also been introduced relating to an agreement for implementation of a

natural gas release programme. These new obligations, together with existing ones for natural gas public supply and natural gas supply under bilateral contracts, require the settlement of rules on the basis of which the total costs of the public provider are allocated by the respective activities. In this regard, a supplement has been made to Article 17, paragraph 7 of ORNGP.

Another supplement has been made to Article 11a, paragraph 3 of ORNGP in connection with the above and with a view to fairly allocate among all customers the public supplier's costs arising from public service obligations.

For the sake of clarity in the application of the provision determining the rate of return on capital, Article 13 of ORNGP has been supplemented by a new paragraph, which regulates the model applicable to assess the capital assets and the data used.

The provisions of Article 21, paragraph 2 and Article 35 of ORNGP have been refined.

In pursuance to Article 30, paragraph 1, item 7 of EA, the prices at which the public provider sells natural gas to natural gas end suppliers and to customers connected to the gas transmission network were subject to regulation by EWRC till end of 2019. Since the beginning of 2020, EWRC approves natural gas prices for the public provider to sell natural gas to end suppliers and to entities, license holders of heating generation and transmission licenses and the prices are to be approved on a monthly basis.

The Energy Strategy of Bulgaria with horizon 2020 was amended in November 2018, in view of the expected significant change in the natural gas supply routes through the country, the potential reduction of quantities transited through the country and the forthcoming construction of key infrastructure projects for the development of the Southern Gas Corridor. The main priorities in the gas sector are ensuring security of supply, providing a liquid and competitive natural gas market and development of the gas transmission infrastructure. The Energy Strategy includes a concept for the construction of a gas distribution center (hub) on the territory of the Republic of Bulgaria, based on the idea of receiving significant natural gas quantities from different entry points of the gas transmission system and from different sources for trading on the hub, as well as for further transportation. The construction of the necessary gas transmission infrastructure and the implementation of the gas hub concept will contribute to achieving strategic goals for the Republic of Bulgaria, including: maintaining the role of the country on the gas map of Europe, as well as a major country providing inputs, trade and natural gas cross-border transmission for the region and the EU. The interconnection of the Bulgarian natural gas market with the natural gas markets of the member states in the region and in Europe as a whole, will contribute to the achievement of the European energy policy for building a single interconnected pan-European natural gas market.

In 2019, with the Law on Amendments and Supplements to the Energy Act, promulgated SG, issue 79 of 08.10.2019, preconditions have been created to enhance competition and achieve liquidity on the organized natural gas exchange. The norms adopted are part of the measures to mitigate the transition from a regulated market to a market at freely negotiated prices and real market liberalization. In this regard, customers connected to the gas transmission network no longer are part of the entities that buy natural gas from the public provider at regulated prices,

except entities, license-holders of heat energy generation and transmission licenses. New obligations for the public provider related to the implementation of the gas release program were regulated, as well as regarding its capacity as liquidity provider and market participant.

With the Amendments and Supplements to the EA, promulgated SG, issue 79 of 08.10.2019, new powers of EWRC were introduced. The Regulator monitors the transition from a regulated market to an organized market at freely negotiated prices in accordance with the Natural Gas Trading Rules (NGTR). The regulatory body shall also approve rules on the operation of an organized natural gas exchange market at the proposal of the market operator of that exchange market and at the proposal of the public provider shall approve an agreement on the gas release programme implementation, including its pricing mechanisms. The Regulator shall supervise the execution of that agreement. EWRC approves a natural gas trading platform and designates its operator, issues a license for organizing a natural gas exchange market and approves the operation rules of an organized natural gas exchange market.

In connection with the above, an obligation has been stipulated for the public provider to offer for sale on the organized exchange market natural gas quantities on an annual basis for the period 2020 - 2024. To this end, the Regulator also approved an Agreement for the implementation of a natural gas release programme between Bulgargaz EAD and Balkan Gas Hub EAD, which defines the terms and conditions under which the public provider shall offer quantities natural gas for sale on the organized exchange market. The agreement, in accordance with EA requirements, determines the procedure on conducting release auctions, release price mechanisms, including auction starting price, the agreement duration, types of products offered and the periods of their offering.

In 2019, EWRC approved the natural gas trading platform proposed by the gas transmission network operator Bulgartransgaz EAD and designated Balkan Gas Hub EAD as its market operator, creating conditions for the implementation of the natural gas trading platform in accordance with Regulation (EU) 312/2014 of 26 March 2014 establishing a Network Code on Gas Balancing of Transmission Networks (Regulation (EU) 312/2014). Thus, the requirement of Article 22 (3) of Regulation (EU) 312/2014 the relevant transactions to be carried out on an approved trading platform was met, in order to calculate the daily imbalance fee and to determine the marginal selling price, the marginal purchase price and the weighted average price.

The trading platform of Balkan Gas Hub EAD was successfully put into commercial operation in December 2019 within the framework of 2020 gas release program. As a result, e-commerce was carried out for the first time on the Bulgarian gas market, and at the first auction, held on December 9, 2019 (in which more than 15 participants had the right to participate), 550 000 MWh were purchased, which is 25% of the natural gas quantities proposed by the public provider for sale on the gas exchange in 2020 (2 220 000 MWh). In December 2019, two more tenders were held under the 2020 gas release programme - on 16 Dec 2019 and 23 Dec 2019, in which a total of 455 MWh gas were purchased. In order to ensure the country's security of supply, the products in the first two auctions were intended for purchase by end suppliers and / or customers connected to the gas transmission system of the Republic of Bulgaria, directly or through natural gas traders. The agreement provides for an auction to be held every second Monday of the month preceding the month of physical delivery for quantities not purchased in

previous auctions as monthly products with even delivery. The quantities offered in the subsequent tenders were intended for customers in and / or out of the country.

After the start of application in December 2019 of the Agreement on the implementation of the natural gas release programme approved by EWRC, since the beginning of 2020 multilateral trading on the trading platform has started and by July 2020 it had 39 registered members successfully involved in intraday and day-ahead product transactions, as well as long-term segment transactions.

In connection with the phasing out of the interim measures balancing regime under Regulation (EU) 312/2014 and to achieve full compliance with its provisions, in 2019 EWRC adopted amendments to RTNG and to the Rules on balancing the natural gas market (RBNGM) and adopted a new *Daily imbalance charge and neutrality charge for balancing calculation methodology* (DICNCBCM), in view of the changes in the natural gas market operation.

With the gas sector normative acts and decisions adopted in 2019, EWRC had a positive impact on the liberalization processes development in the sector and in the proper functioning of the Bulgarian natural gas market as part of the EU market, in accordance with European and national legislation with a view to opening the national natural gas market, diversifying and securing gas supplies in order to reduce prices and promote market competition.

2.2. Report on the implementation of the Clean Energy Package

According to the provision of article 59, paragraph 1, item 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 for electricity and amending Directive 2012/27/EU (Directive 2019/944), EWRC has the obligation to monitor the application of the rules on the functions and tasks of transmission system operators, distribution system operators, suppliers and customers and other market participants in accordance with 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 yet. 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 investment plans of the transmission system operators and providing in its annual report an assessment of the investment plans of the transmission system operators as regards their consistency with the Union-wide network development plan; such assessment may include recommendations to amend those investment plans.

In connection with the above, with EWRC Decision № ДИПМ -2 of 16.08.2019, Plan for development of the transmission electricity network of Bulgaria for the period 2019 - 2028 was approved. The 2019-2028 ten-year 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.

In order to ensure safe operation of the electricity transmission network in compliance with the principles of providing the necessary reliability of the transmission system and stability of the generating sources in the 400 kV network of Bulgaria, the Electricity System Operator EAD (ESO EAD) has included in the Development Plan of the transmission network of Bulgaria for the period 2019 - 2028 the construction of the following new electricity power lines of pan-European importance:

- Substation Maritsa East - Substation Nea Santa, Greece;

- Substation Sofia West – Substation Nish, Serbia, second electricity power line;
- Substation Plovdiv - Maritsa East;
- Substation Maritsa East – Switchyard of TPP Maritsa East 3;
- Substation Maritsa East - Substation Burgas;
- Substation Burgas - Substation Varna.

The annual estimated values of all costs for construction, expansion, reconstruction and modernization of the electricity transmission network objects and of the protection and EPS management systems for the period of the 2019 - 2028 Ten-year plan, amount to 1 347 300 thousand BGN, of which 189 629 thousand BGN or 14.07% were attracted European funds, mainly for co-financing of projects of pan-European importance.

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 2019-2028 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 taking into account 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.

During the period under review, important changes were adopted in the Energy Act (promulgated SG, issue 41 of 2019) and OREP (promulgated SG, issue 50 of 25.06.2019) in the field of network services tariff regulation, as a result of which the obligation of the market participants to pay tariffs for transmission and access to the electricity transmission network for electricity quantities generated in Bulgaria and intended for export has been waived. Also, a price of access to the electricity transmission network for electricity generators has been introduced.

In the pricing decisions during the 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 2016 - 2019 is presented in the table below:

			2016	2017	2018	2019
ESO EAD	Access price to the transmission network	BGN/MWh	1.13	1.09	1.39	0.41
	Transmission price through the	BGN/MWh	7.32	8.15	8.45	9.83

	transmission network					
	Access price to the transmission network for PvPP and WPP	BGN/MWh	7.02	6.68	3.02	5.14
	Access price to the transmission network for power generators, excluding PvPP and WPP generators	BGN/MWh	-	-	-	2.12
CEZ Distribution Bulgaria AD	Transmission price through the distribution network MV	BGN/kWh	0.00875	0.00923	0.00971	0.01002
	Transmission price through the distribution network LV	BGN/kWh	0.02933	0.03098	0.03245	0.03426
	Access price of non-household customers	BGN/kWh/day	0.01745	0.01745	0.01796	0.01989
	Access price of household customers	BGN/kWh	0.00505	0.00505	0.00519	0.00577
EP Yug AD	Transmission price through the distribution network MV	BGN/kWh	0.00805	0.00823	0.00884	0.0095
	Transmission price through the distribution network LV	BGN/kWh	0.03127	0.03154	0.03253	0.03576
	Access price of non-household customers	BGN/kWh/day	0.01651	0.01651	0.01733	0.01981
	Access price of household customers	BGN/kWh	0.00503	0.00503	0.00516	0.00599
ERP Sever EAD	Transmission price through the distribution network MV	BGN/kWh	0.0119	0.01036	0.0117	0.01274
	Transmission price through the distribution network LV	BGN/kWh	0.03151	0.03008	0.03278	0.03478
	Access price of non-household customers	BGN/kWh	0.00818	0.008	0.00854	0.00896
	Access price of household customers	BGN/kWh	0.00818	0.008	0.00854	0.00896
ERP Zlatni Piasaci AD	Transmission price through the distribution network LV	BGN/kWh	0,03453	0.02783	0.03303	0.03125
	Access price of non-household customers	BGN/kWh	0,00718	0.00666	0.00675	0.00644
	Access price of household customers	BGN/kWh	0,00718	0.00666	0.00675	0.00644

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 were 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 a 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. The auction rules, the user registers and the agreed transmission capacities to be allocated are published on the website of ESO EAD. The results of the annual, monthly and daily auctions organized by ESO EAD are publicly available on the website of ESO EAD and in the public section of the electricity market administration system. According to the above rules, ESO EAD performs the role of auction operator for allocation of 50% in both directions of the agreed transfer capacities on the Bulgarian-Turkish border, as well as the daily transfer 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 of the allocation of daily transmission capacities on the Bulgarian-Romanian border, and MEPSO (North Macedonia) - of 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

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 *Common capacity calculation methodology* was approved by the three NRAs in SEE region in April 2019. The three SEE CCR TSOs chose the calculation method in the methodology to be based on coordinated net transmission capacity. The implementation of the methodology is closely related to the activity of the SEE CCR Regional Security Centre (RSC). Due to delays related to the establishment of the Thessaloniki RSC, the methodology implementation will be delayed too. Another important task related to 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 redispatching and countertrading cost sharing*.

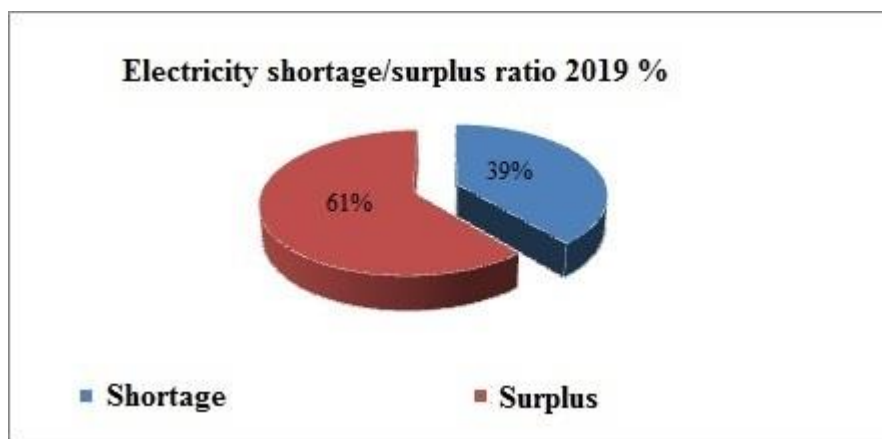
As required by Art.76 and 77 of Commission Regulation (EU) 2017/1485 of 2 August 2017 establishing a guideline on electricity transmission system operation (Regulation (EU) 2017/1485), a common methodology for the region of Southeast Europe was developed to coordinate the analysis of operational security. The methodology was drafted in accordance 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 2019 was 624 727 MWh compared to 1 040 648 MWh in 2018, which is a decrease of approximately 40%. Total energy surplus in 2019 was 984 771 MWh compared to 814 628 MWh in 2018, which is an increase of approximately 21%. Percentages of electricity shortage and electricity surplus in 2019 are shown in Figure 16.



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

In its practice so far, EWRC has established two separate marginal prices, namely - a marginal price for concluding transactions on the balancing energy market for the provision of a systemic upward regulation service and a marginal price for concluding transactions on the balancing energy market for providing a systemic downward regulation service.

The upward regulation marginal price is tied to the achieved price on the day-ahead market, thus achieving interdependence in the two markets and not allowing arbitrage. Such a measure ensures the proportionality of the balancing costs of market participants depending on hourly market prices. The achieved day-ahead market (DAM) price functions as a minimum price for upward regulation proposals. In this way, the imbalances price always is more unfavourable than that the DAM one, and market participants are encouraged to participate in the balancing energy market with their reserve capacity.

With Decision № II-36 of 23.12.2019 EWRC has started to apply a more balanced pricing model, according to which the marginal price for concluding transactions on the balancing energy market for upward regulation is determined as DAM price + supplement of BGN 100/MWh, where DAM price is the DAM price of IBEX EAD for the respective hour. A lower supplement would not cover the variable costs of the plants providing this service to ESO EAD. When using this approach, the Regulator expects marginal upward regulation prices, respectively the shortage costs of market participants, to reduce.

The marginal downwards regulation price should be common for all market participants, regardless of whether the used capacities are generating or consuming. Thus non-discriminatory and equal treatment is ensured for the plants offering this system service and no benefit is allowed for one participant at the expense of the others or speculative behaviour. Market principles require that downward regulation price to be a positive value. At a negative price value, the plant providing the system service sells shortage, and consumers who are in surplus buy it, which contradicts the principles of the balancing market and leads to extreme values of balancing energy and high imbalance costs. The negative downward price is an excessive sanction for producers and consumers who are in excess, which distorts the market, jeopardizes its operation and contradicts European practices. To this end, with Decision № II-36 of 23.12.2019, EWRC maintained the marginal price for concluding transactions on the balancing energy market for downward regulation at BGN 0.00 (zero)/MWh.

3.1.6. Cross-border issues

Regarding the technical cooperation between the transmission system operators in EU and with 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.

3.1.7. Implementation of Network Codes and guidelines

One of the latest changes in the EMR has introduced the requirements of Regulation (EU) 2019/943 and Commission Regulation (EU) 2017/2195 of 23 November 2017 establishing guidelines for electricity balancing (Regulation (EU) 2017/2195). One of the objectives of Regulation (EU) 2017/2195 is the integration of balancing markets by enhancing transparency and competition, as well as to introduce an effective exchange of balancing services using EU-wide balancing platforms. The Regulation provides for the introduction of standard products for balancing capacity and energy and harmonization of cross-zonal transmission capacity allocation procedures, the settlement rules applicable to the exchange of balancing energy of replacement reserves, frequency restoration reserves with automatic and manual activation and imbalance netting process governance. The framework guidelines for the establishment of common platforms for balancing capacity and energy exchange have been approved by ACER.

The European platform for the exchange of balancing energy from replacement reserves under Art.19 of Regulation (EU) 2017/2195 (TERRE project) is operational since January 2020. The European platforms under Art.20 and Art.21 of Regulation (EU) 2017/2195 (MARI and PICASSO projects) for frequency restoration reserves with automatic and manual activation are under development. All Continental European TSOs are due to join the European platform for imbalance netting process under Art.22 of Regulation (EU) 2017/2195 (IGCC project). The basis for international network management cooperation was laid down in 2010 by the four German TSOs in order to reduce the volume of counter activated balancing energy. ESO EAD actively participates in the mentioned projects, has assessed the conditions for joining each of them, signed the agreements for joining the IGCC project, and is currently in the process of signing the agreements for the MARI and PICASSO projects.

EWRC is in the process of amending the Electricity Power System Management Rules (EPSMR) and introducing the requirements of the regulations enlisted below:

- Commission Regulation (EU) 2016/631 of 14 April 2016 establishing a network code on requirements for grid connection of generators;
- Commission Regulation (EU) 2016/1388 of 17 August 2016 establishing a network code on demand connection;
- Commission Regulation (EU) 2016/1447 of 26 August 2016 establishing a network code on requirements for grid connection of high voltage direct current systems and direct current-connected power park modules;
- Commission Regulation (EU) 2017/2196 of 24 November 2017 establishing a network code on electricity emergency and restoration;
- Commission Regulation (EU) 2017/1485 of 2 August 2017 establishing a guideline on electricity transmission system operation.

3.2. Competition and market functioning

With the amendments and supplements to the Energy Act (promulgated SG (41) of 21.05.2019), the next stage of the electricity market liberalization process has been started, with the obligation for RES and HECG generators with total installed capacity of 1 MW to 4 MW to sell the entire volume of electricity produced to different segments of the organized power exchange. In this regard, for this group of generators the existing model of mandatory purchase of their RES and HECG energy stopped working and they have been integrated in the wholesale market at freely negotiated prices. As a result of these measures, the power exchange liquidity has increased and hence, the market stability and transparency as well. EWRC expects that higher traded volumes will lead to the demand/supply of a larger number and more diverse exchange products, corresponding to the greatest extent to the portfolio of the respective trading participant, which would give additional impetus to the exchange trading development. This would promote competition between suppliers and customers and increase the confidence of all in the electricity market.

3.2.1. Wholesale markets

Data on electricity generated in the period 2016 - 2019 is summarized by years in the table below:

Electricity generated by plants connected to ESO EAD - MWh	2016	2017	Difference 2017/2016	2018	Difference 2018/2017	2019	Difference 2019/2018
1. NPP	14 932 619	14 718 368	-1.43%	15 291 204	3.89%	15 712 446	2.75%
2. TPP lignite coal	16 196 171	17 605 902	8.70%	16 717 934	-5.04%	15 672 009	-6.26%
3. TPP black and brown coal	255 316	246 111	-3.61%	240 872	-2.13%	193 778	-19.55%
4. TPP natural gas	1 729 845	1 609 514	-6.96%	1 316 623	-18.20%	1 477 734	12.24%
5. HPP, incl.:	4 438 123	3 395 131	-23.50%	4 356 883	28.33%	2 334 833	-46.41%
5.1. PSHPP generation	1 059 839	899 639	-15.12%	986 848	9.69%	694 453	-29.63%
5.2. PSHPP pumps*	625 373	647 485	3.54%	425 127	-34.34%	659 688	55.17%
6. RES to transmission network, incl.:	3 054 654	3 054 993	0.01%	1 160 541	-62.01%	1 148 150	-1.07%
6.1. WPP	1 424 548	1 414 564	-0.70%	705 087	-50.16%	682 436	-3.21%
6.2. PvPP	1 338 661	1 325 472	-0.99%	366 395	-72.36%	382 960	4.2%
6.3. Biomass PP	291 445	314 956	8.07%	89 059	-71.72%	82 754	-7.08%
Total: 1+2+3+4+5+6	40 606 726	40 630 018	0.06%	39 084 056	-3.80%	36 538 950	-6.51%
Electricity generated by plants connected to DSO - MWh	2016	2017	Difference 2017/2016	2018	Difference 2018/2017	2019	Difference 2019/2018
1.Coal	42 344	102 363	141.74%	33 863	-66.92%	31 966	-5.60%
2.Natural gas	339 686	454 666	33.85%	320 043	-29.61%	314 206	-1.82%
3.HPP	932 860	616 482	-33.91%	1 025 239	66.30%	664 760	-35.16%
4.WPP	699 262	1 370 378	95.97%	640 888	-53.23%	635 351	-0.86%
5.PvPP	1 025 376	461 825	-54.96%	1 013 888	119.54%	1 041 099	2.68%
6.Other	215 484	1 220 260	466.29%	231 006	-81.07%	239 964	3.88%
Total electricity generated to DSO	3 255 012	3 107 537	-4.53%	3 264 927	5.06%	2 927 346	-10.34%
TOTAL electricity generated TSO+ DSO	43 861 738	43 737 555	-0.28%	42 348 983	-3.17%	39 466 296	-6.81%

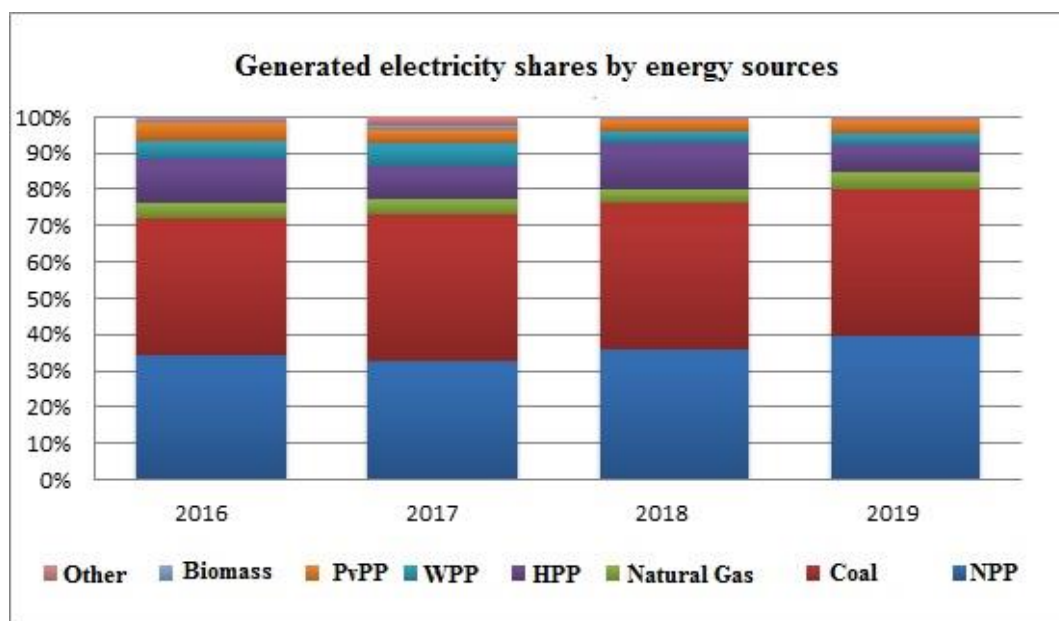
The table summarizes the volumes of electricity generated from primary energy sources from power plants connected to the transmission network of the transmission operator ESO EAD, as well as from power plants connected to the distribution network operators.

Electricity from coal and nuclear energy has the biggest shares for the period by years. It should be noted that since 2017 the generated nuclear energy in absolute terms (quantities) has been increased, and accordingly, the market share, which in 2019 reached 39.81% compared to 32.81% in 2017. Since 2017, there has been a steady decrease in the amount of electricity generated from coal. For the same period, the generated electricity quantities decreased from 17 954 377 MWh in 2017 to 15 897 753 MWh in 2019, equalizing the market share of coal-fired energy with that of nuclear energy.

For the period 2018 - 2019, the renewable energy sources electricity decreased compared to 2017. The wind and solar energy shares respectively, are below 5%.

The next table and graph summarize the data and changes in the electricity volumes generated by years by primary energy sources - nuclear energy, lignite, black and brown coal, natural gas, hydropower and renewable energy (wind, solar, biomass). The largest decrease over 1 million MWh was in the electricity generated from lignite and hydropower. For solar energy an increase has been reported for power plants connected to the electricity distribution companies. Total electricity generated after 2017 decreased from 44 855 993 MWh to 39 466 296 MWh in 2019. The decrease in 2019 compared to 2018 is by 2 882 687 MWh.

Energy sources	2016	2017	2018	2019
NPP	14 932 619	14 718 368	15 291 204	15 712 446
Coal	16 493 830	17 954 377	16 992 669	15 897 753
Natural gas	1 729 845	2 064 180	1 636 666	1 791 940
HPP	5 370 984	4 011 613	5 382 072	2 999 593
WPP	2 123 810	2 784 942	1 345 975	1 317 787
PvPP	2 364 037	1 787 298	1 380 283	1 424 059
Biomass	291 445	314 956	89 059	82 754
Other	215 484	1 220 260	231 006	239 964
Total	43 522 054	44 855 993	42 348 934	39 466 296



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

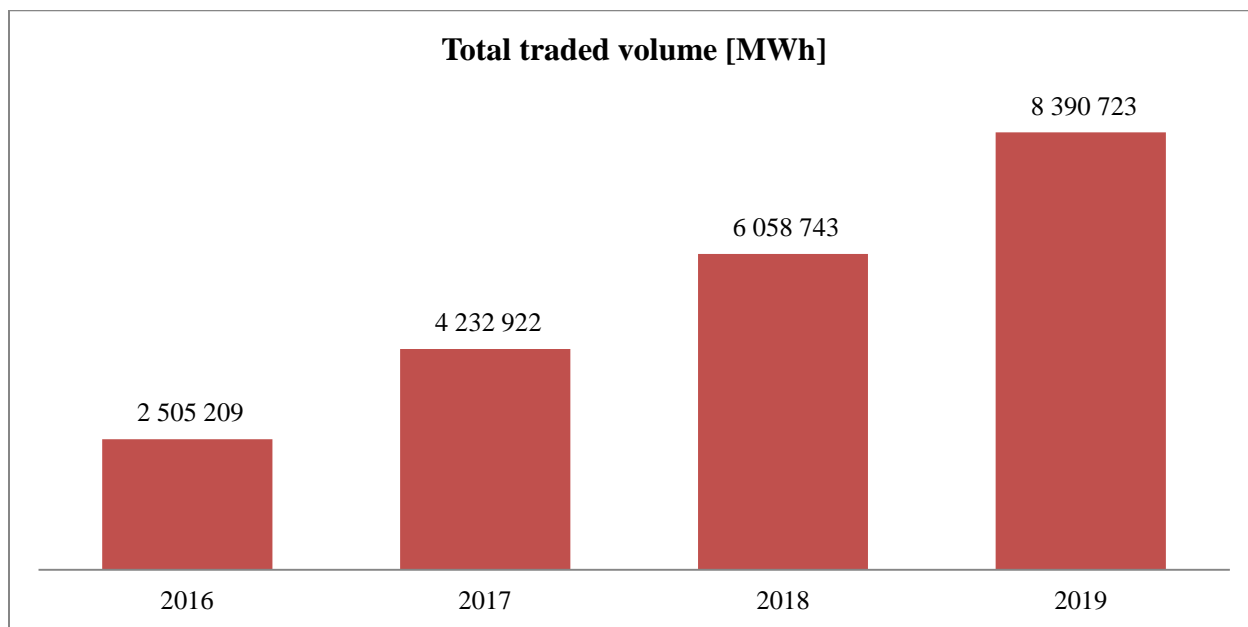
In connection with the obligation under Art.59 (1) (n) of Directive (EU) 2019/944, EWRC monitors the level of transparency, including wholesale prices, and ensures that electricity

undertakings comply with transparency obligations. In this regard, an analysis of the wholesale electricity trading has been made.

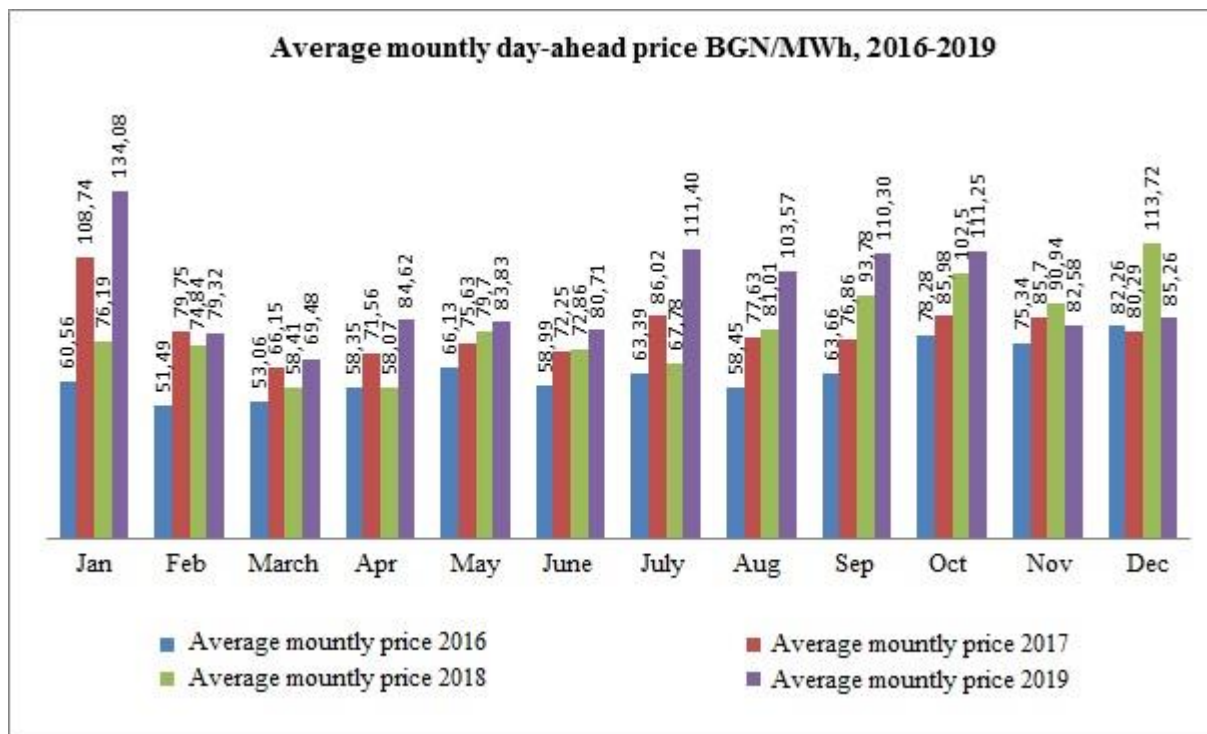
The main wholesale trading is carried out through the three segments of the Bulgarian Independent Energy Exchange EAD (IBEX EAD), namely: day-ahead market (DAM), intraday market (IDM) and centralized market of bilateral contracts (CMBC).

Day-ahead Market

In the period 2016 - 2019 there was a steady trend of increasing the base energy traded volumes on DAM of IBEX EAD. In 2019, the traded volume increased by 335% compared to 2016. The volumes increased from 2 502 209 MWh to 8 390 723 MWh in 2019.



Source: IBEX EAD



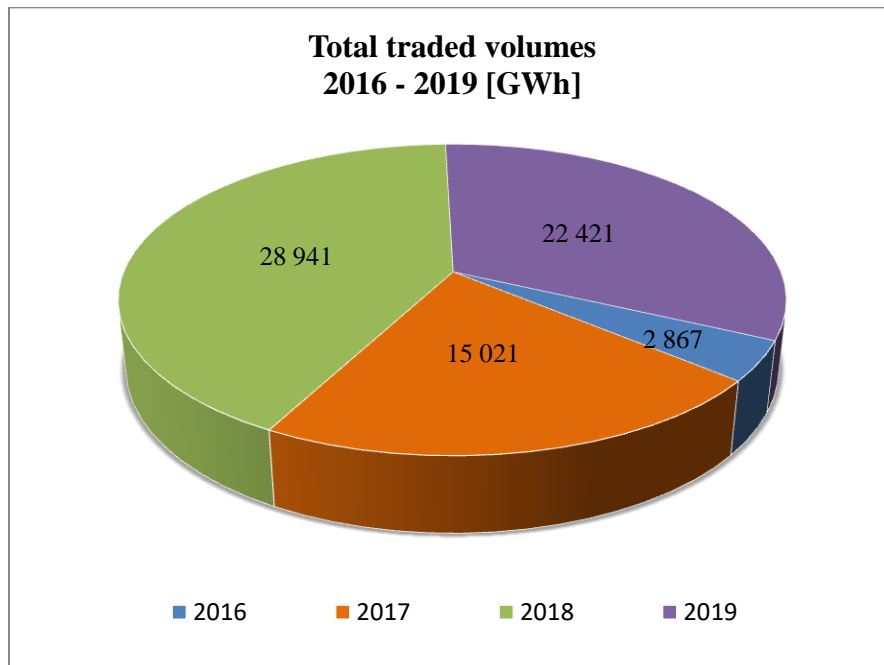
In the period 2016 - 2019, the DAM average monthly prices showed a steady upward trend. In 2019, the average monthly prices increased by 20% compared to the levels in 2018. The largest growth, compared to the same month of the previous year, was in January, when the price reached 134.08 BGN/MWh or an increase of 76%; in July - 111.4 BGN / MWh or 64% and April - 84.62 BGN/MWh or 46%. The prices were lower in November - BGN 82.58/MWh, or a decrease of 9% compared to the same month in 2018 and in December - BGN 85.26/MWh or a decrease of 25%.

Aggregated data on the volumes sold on the IBEX EAD market segments in the period 2016 - 2019 are shown in the table below:

Traded volumes	DAM MWh	CMBC Auctions MWh	CMBC Continuous MWh	IDM MWh	Total GWh	Difference GWh	Difference %
2016	2 505 209	6 528			2 512		
2017	4 232 922	3 987 019	41 640		8 262	5 749	228.92%
2018	6 059 050	15 801 016	1 180 010	170 774	23 211	14 949	180.95%
2019	8 390 723	16 446 889	73 369	356 839	25 268	2 057	8.86%
Total	21 187 904	36 241 453	1 295 019	527 612	59 252		

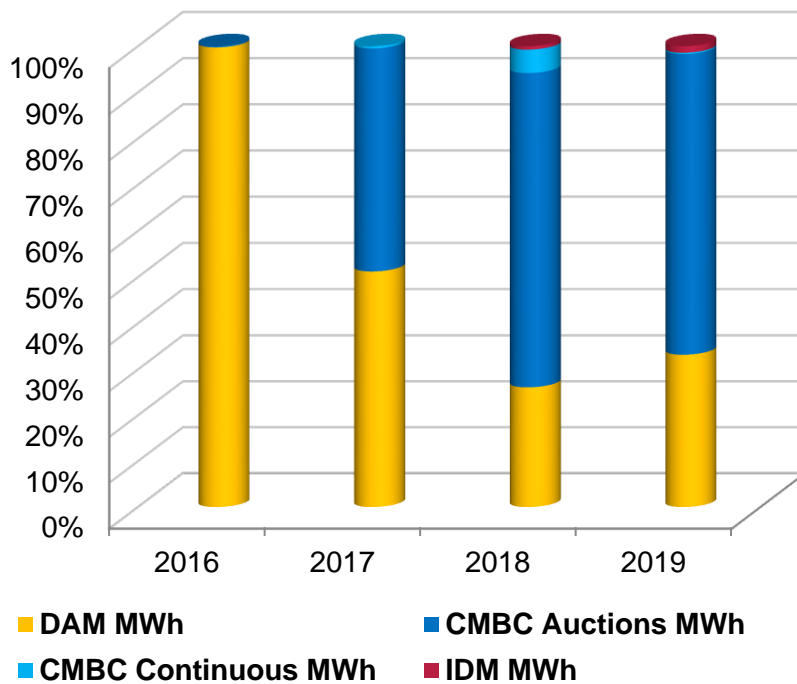
In the period 2016 - 2019, the total volumes traded in the IBEX EAD market segments increased in 2017 compared to 2016 by 5 749 GWh or 228.92%. In 2018, they increased by 14 949 GWh or 180.95% compared to 2017, and in 2019 the increase compared to 2018 was 8.86%. The largest share of traded volumes in 2016 was on DAM, and in 2017 that share was equalized with traded volumes on CMBC Auctions. In 2018, the quantities delivered through

CMBC Auctions had the largest share - 15 801 016 MWh compared to 6 095 050, delivered on DAM. In 2019 again the largest volume was traded on CMBC Auctions.



Source: IBEX EAD

Traded volumes 2016 – 2019 by market segments



Source: IBEX EAD

Average prices for traded volumes	DAM BGN/MWh	CMBC Auctions BGN/MWh	CMBC Continuous BGN/MWh	IDM BGN/MWh	Total BGN/MWh	Difference BGN/MWh	Difference %
2016	67.30	68.36			67.43		
2017	79.56	75.25	67.73		75.85	8.42	12.49%
2018	82.84	77.87	-	84.90	78.95	3.10	4.08%
2019	95.13	90.66	95.06	70.66	92.08	13.13	16.63%

Source: IBEX EAD

The annual average prices of traded energy volumes increased by 12.49% in 2017 compared to 2016. The highest growth was recorded in 2019 compared to 2018 - 16.63%.

Aggregated indicators that characterize the dynamics of the wholesale market development for the period 2016 – 2019, are listed in the table below:

ELECTRICITY WHOLESALE MARKET INDICATORS	2016	2017	2018	2019
Total electricity production, GWh (gross)	45 040	45 340	46 531	44 122
Total number of active electricity traders	90	97	89	85
Total electricity consumption, without pumps, GWh	37 714	38 864	38 218	37 628
Total electricity consumption, open market, GWh	15 208	16 740	16 474	15 574
Import volume, GWh	3 754	3 425	3 118	4 026
Export volume, GWh	10 120	8 906	10 931	9 822

Statistics on the day with highest electricity consumption in the country in 2019

Day with highest electricity consumption in:	electricity consumption (gross), GWh	Registration date
2016	148	21 Jan 2016 (Thurs)
2017	164	10 Jan 2017 (Tues)
2018	148	27 Feb 2018 (Tues)
2019	150	08 Jan 2019 (Tues)

3.2.2. Retail market

Four electricity distribution network operators hold licenses for electricity distribution to customers connected to the low and medium voltage distribution grids in the respective retail areas:

- *CEZ Distribution Bulgaria AD* operates in the territory of 10 districts in Western Bulgaria;
- *Electrodistribution North AD* operates in the territory of 9 districts in North Bulgaria;

- *Elektrorazpredelenie Yug EAD (EP Yug)* operates in the territory of 9 districts in South Bulgaria;
- *Electrodistribution Zlatni Piasaci AD* has a limited geographical area of activity in the region of Varna.

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

- 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 who are connected to the distribution network and 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) of electricity - supplies low voltage electricity to cities of household and non-household end consumers connected to the electricity distribution network at regulated prices determined by EWRC;
 - Three vertically integrated energy companies, actively operate in the energy retail market: economic groups with brands - CEZ Bulgaria EAD, EVN Bulgaria EAD and ENERGO-PRO Varna EAD;
 - End suppliers market shares are calculated on the basis of reported by them energy sales to household and non-household customers by years for the period 2016-2019.
 -

MARKET SHARE				
End Suppliers	2016	2017	2018	2019
CEZ Distribution Bulgaria AD	40.71%	40.79%	40.01%	39.68%
EVN Bulgaria Electricity Supply EAD	35.24%	35.83%	37.19%	38.26%
Energopro Sales AD	24.05%	23.38%	22.81%	22.81%

Using market shares data analysis, it can be reported that CEZ Electro Bulgaria AD has the largest market share, but it marks a slight decrease in the period 2016 – 2019, from 40.71% to 39.68%. The market share of ENERGO-PRO Sales AD also marked a slight decline for the period, from 24.05% to 22.81% in 2019. EVN Bulgaria Electricity Supply EAD increased its market share from 35.24% in 2016 to 38.26% in 2019. Electrodistribution Zlatni Piasaci AD was not included in the analysis because its market share is below 1% and has no significant impact on the market.

In terms of demand, the retail market consists of two segments: household customers and non-household customers. The total number of customers connected to the distribution companies in 2019 was 5 136 361, of which household customers - 4 512 126. The total number of customers with an end supplier was 5 016 086, which represents 97.66% of all customers. The total number of customers in the free market, including SLR, was 120 275.

Household customers

Retail market indicators

Household market consumption increased in 2017 compared to 2016 from 10 736 256 MWh to 11 068 228 MWh, which was an increase of 3.09%. That trend reversed and in 2018 and 2019 it decreased by -0.93% in 2018 compared to 2017 and by -1.46% in 2019 compared to 2018, respectively.

The number of household customers increased from 4 451 408 in 2016 to 4 513 355 in 2019. The number of household customers who switched suppliers was insignificant and the household customers share in the regulated market for the entire period was almost 100% (about 99.9%). There was no significant change in the number of supply cuts due to non-payment, which were about 367 thousand per year.

Retail market indicators (households)	2016	2017	Difference 2017/2016 %	2018	Difference 2018/2017 %	2019	Difference 2019/2018 %
Electricity consumption MWh	10 736 256	11 068 228	3.09%	10 965 494	-0.93%	10 805 236	-1.46%
Number of electricity customers	4 451 408	4 479 397	0.63%	4 495 926	0.37%	4 513 355	0.39%
Number of customers switching supplier	983	2 837	188.61%	2 118	-25.34%	1 337	-36.87%
Active traders	30	32	6.67%	26	-18.75%	22	-15.38%
Average switching time (days)	24	24	0%	24	0%	24	0%
Regulated tariffs customers	4 449 156	4 475 069	0.58%	4 492 431	0.39%	4 510 508	0.40%
Number of supply cuts due to non-payment	347 478	383 924	10.49%	367 232	-4.35%	367 825	0.16%

Consumer empowerment indicators

One of the main goals of the policy for liberalization and development of a competitive retail electricity market is to put the household consumer at the centre of the market. In line with the latest amendments to the Clean Energy for All Europeans package, the emphasis is on the possibility for each consumer in the retail electricity market to be able to produce, consume and sell the electricity he himself produces. There are still no smart meters installed on the market, only remote electricity meters for the supplied electricity are in place, but they do not have the characteristics of smart meters within the meaning of Directive 944/2019.

The number of final consumers with photovoltaic installations for self-production and consumption is insignificant - 22 in 2016 and 44 in 2019, which in terms of volume of installed capacity decreases from 58 MW in 2016 to 0 MW in 2019.

The number of complaints filed by household customers for the period is significant, over 10 000.

Consumer empowerment indicators (Electricity-households)	2016	2017	Difference 2017/2016 %	2018	Difference 2018/2017 %	2019	Difference 2019/2018 %
Number of electricity household consumers	4 451 408	4 479 397	63%	4 495 926	0.37%	4 513 355	0.39%
Number of customers in the regulated market	4 450 374	4 476 283	0.58	4 493 660	0.39%	4 511 737	0.40%
Number of customers in the open market	1 034	2 745	165.47%	2 092	-23.79%	1 514	-27.63%
Number of customers supplied by SLR	0	618	-	213	-65.53%	114	-46.48%
Number of complaints by household customers	11 729	13 952	18.95%	10 613	-23.93%	11 271	6.20%
Number of working days between notification to pay a bill and disconnection in cases of non-payment in practice	3 up to 40	3 up to 40	-	3 up to 40	-	3 up to 40	-
Number of smart meters	96 036	102 334	6.56%	283 334	176.87%	454 653	60.47%
Number of final household consumers with photovoltaic installations for self-consumption	22	29	31.82%	37	27.59%	44	18.92%
Volume of installed capacity of photovoltaic installations of final household consumers for partial self-consumption	58	15	-73.90%	15	-0.86%	0	-98.34%

Non-households

The total consumption of electricity by non-household customers remained stable and for the period 2016 - 2019 it increased till 2018 (by 3.09% in 2017 compared to 2016 and by 1.45% in 2018 compared to 2017; a decrease of 1.55% in 2018 compared to 2019). The number of non-household customers increased for the period from 497 007 in 2016 to 624 910. The main growth was in 2017 (22.17 % compared to 2016).

In 2019, there were still a large number of non- household customers connected to the low voltage network and they bought electricity at regulated prices.

Accordingly, non-household customers share at regulated tariffs is high. For the period 2016 - 2018, the non-household customers share in the regulated market decreased from 83.18% to 76.18%, but in 2019 there was again an increase up to 80.89%. The average time for switching suppliers is between 20 and 30 days for different electricity distribution companies.

Retail market indicators (non-households)	2016	2017	Difference 2017/2016 %	2018	Difference 2018/2017 %	2019	Difference 2019/2018 %
Electricity Consumption MWh	12 656 471	13 047 255	3.09%	13 236 367	1.45%	13 031 572	-1.55%
Number of customers	496 007	605 990	22.17%	611 588	0.92%	624 910	2.18%
Number of customers switching supplier	64 707	86 055	32.99%	101 932	18.45%	79 290	-22.21%
Active traders	48	45	-6.25%	46	2.22%	45	2.17%
Average switching time (d)	18	18	0%	18	0%	18	0%
Customers under regulated tariff	412 564	471 660	14.32%	465 926	-1.22%	505 463	8.49%

3.2.3. Consumer protection and dispute settlement

Disputes settlement terms and conditions are regulated by EA and by Ordinance №3 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. 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 under the Administrative Code.

In 2019 the total number of electricity complaints of household customers against licensed companies filed in EWRC was 476 and under the provisions of art.22, para.1 of EA, administrative proceedings have been started.

In fulfilment of its powers, EWRC monitors the implementation of the regulated legal measures on energy services consumers protection, including: provision of information on consumers contracts content; payment methods for the services related to the licensed activity; switching supplier procedure; dispute settlement methods, as well as meeting the obligations of providing services of public interest to customers, including: transportation, supply or energy

supply of a certain quality. EWRC verifies the licensees obligations performance related to the provision and implementation of the above-mentioned legal measures and services provided to the customers.

As per art.59, para1(t) 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.

The energy companies' obligations to provide information to their customers are stipulated in EA chapter three "Regulation of Energy Activities", section VI "Protection Measures of Energy Services Customers":

- actual quantities consumed and provided service value in accordance with the agreed metering frequency at no additional cost of that service;
- conditions for the provision of electronic billing information and electronic bills;
- an energy supplier shall make available details about the consumption of a household customer to another energy supplier if this is expressly agreed between the customer and the energy supplier;
- an energy supplier shall provide customers with a wide choice of payment methods, including advance payment systems that are fair and adequately reflect the expected consumption.

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 the 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 the 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.

The transmission system operator shall ensure sufficient cross-border capacity to integrate European gas transmission infrastructure while meeting all economically reasonable and technically feasible capacity requirements and to comply with security of gas supply

requirements, by planning its investments to ensure long-term network capacity to reasonably cover demand and ensure security of supply.

Indicators	2016	2017	2018	2019
Maximum gas daily consumption (TWh/day).	0,152	0,177	0,146	0,166
Pipeline entry capacity in TWh/y	319,375	310,98	319,01	333,245
Pipeline exit capacity (exports) in TWh/y	225,205	232,87	242,725	229,585
Underground gas storage – working gas volume in mln. m ³ (n)	550	550	550	550
Underground gas storage – maximum withdrawal capacity (TWh/day)	0,046	0,046	0,046	0,046
Number of TSOs	1	1	1	1
Extension of TSO grid (km)	0	0	23	11
Number of DSOs	24	24	24	24
Extension of DSO grid (km)	110	153	153	187

4.1.1. Network and LNG tariffs for connection and access

The 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 distribution and transmission networks.

Tariff regulation is carried out in compliance with EA, ONGRP and the Methodology for determining prices for access and transmission of natural gas through the gas transmission networks, owned by Bulgartransgaz EAD.

Tariffs for connecting customers to the gas distribution networks (household and non-household) are formed by customers groups according to the requested maximum capacity and pressure and the relevant eligible costs of the group. The costs for additional connection equipment at the customer's request shall be for its own account.

Transmission network connection tariffs of extraction pipeline production networks, natural gas storage facilities, liquefied natural gas facilities, renewable gas production units, distribution networks and non-household customers are individual and include the actual construction costs of connection facilities of the undertaking concerned. Tariffs are formed on the basis of incurred costs for all connection activities, the gas pipelines and facilities value in accordance with the regulatory and technological requirements, ensuring a direct connection from the technologically approved connection point of the respective network to the customer/customer group connection point.

The provision of access and use of gas facilities owned by non-household customers to a gas distribution network operator on the respective licensed territory, according to EA, shall be carried out after signing a contract and at a price determined by the Regulator on the grounds of the *Methodology determining prices for access provided to a transmission or distribution company by consumers through their own systems and/or facilities to other consumers for the*

purposes of conversion and transmission of electricity, heat transmission and natural gas transmission, adopted pursuant to Art.117, paragraph 8, Art. 138, paragraph 3 and Art.197, paragraph 9 of the Energy Act. According to item 8 of this methodology, for calculating the access price, EWRC shall annually determine service coefficients for the activity by sectors – electricity transmission and distribution, heat transmission and natural gas distribution. By Decision under Protocol № 219 of 12.12.2019, item 7, EWRC determined the coefficients for servicing the activity by sectors to be applied in 2020.

Bulgartransgaz EAD operates a gas transmission system, uniting a national gas transmission network for natural gas transmission on the territory of the Republic of Bulgaria and a gas transmission network for transit transportation. According to Art.21 of the *Methodology determining prices for access and transmission of natural gas through the gas transmission networks owned by Bulgartransgaz EAD*, the tariff structure of the prices for access and transmission of natural gas through the national gas transmission network and through the gas transmission network for transit transportation shall be determined by the operator.

EWRC approves revenue requirements of Bulgartransgaz EAD regarding the applied “entry-exit” tariff model when setting prices of natural gas access and transmission through the gas transmission system. The tariff setting method used is “revenue cap” regulation.

By Decision № БИИ-7 of 1 August 2017 EWRC approved a business plan for the activity natural gas transmission through the gas transmission networks owned by Bulgartransgaz EAD, for the period 2017-2019, and by Decision № НПП-1 of 1 August 2017 EWRC approved the revenue requirements of Bulgartransgaz EAD for the first year of the regulatory period.

In compliance with the *Methodology determining prices for access and transmission of natural gas through the gas transmission networks owned by Bulgartransgaz EAD*, the gas TSO has set prices for access and transmission through the gas transmission networks owned by Bulgartransgaz EAD for the gas year 1.10.2018 - 30.09.2019, as well as for the gas year 1.10.2019 - 30.09.2020.

In 2019, capacity notification and allocation for both interconnection points and internal system entry and exit points were realized at RBP regional capacity booking platform.

Amendments to the *Methodology determining prices for access and transmission of natural gas through the gas transmission networks owned by Bulgartransgaz EAD* are to be adopted in 2020 in order to bring it in line with Commission Regulation (EU) 2017/460 of 16 March 2017 establishing a network code on harmonized transmission tariff structures for gas (Regulation (EU) 2017/460).

Bulgartransgaz EAD is the operator of the only underground gas storage Chiren (Chiren UGS) with the main purpose of covering seasonal irregularities in consumption and ensuring security of natural gas supply.

In accordance with Art.172b, paragraph 1 of the Energy Act and the *Rules on access to gas transmission and/or gas distribution networks and natural gas storage facilities*, adopted by EWRC, the gas storage facility operator publishes Rules on access to Chiren underground gas storage, which regulate the terms and conditions for granting access to the gas storage. The rules are based on the following principles: equality of gas storage users; transparency and non-discrimination in providing access to the gas storage facility. The application of the Rules on access to Chiren underground gas storage ensures the fulfilment of the requirement not to impede the users access of the to the gas storage.

EWRC regulates the prices of natural gas access and storage in storage facilities in compliance with EA, the *Ordinance on natural gas prices regulation* (ONGPR) and the

Guidelines on pricing natural gas access and storage in storage facilities, applying "rate of return on capital" regulation adopted by EWRC. Natural gas access and storage prices, which the gas storage facilities operators, respectively a combined operator, charge their customers for one and the same service under equivalent terms and conditions, ensure compliance with the principle of non-discrimination to all network users. At the same time, the national market special characteristics are taken into account.

In 2020, EWRC is to approve new prices of natural gas access and storage in storage facilities.

According to Art.14 of ONGPR energy companies may propose for approval by the Regulator different tariff structures by customer groups, reflecting the allocated annual revenue requirements needed for the service provision for each group based on submitted service value study, depending on similar consumption characteristics and/or other characteristics.

In the event of delays by transmission system operators in setting access and transmission prices, the Regulator may set provisional prices and decide on appropriate compensatory measures in case the final access and transmission prices deviate from the provisional prices.

According to Art.21 of the *Methodology determining prices for access and transmission of natural gas through the gas transmission networks owned by Bulgartransgaz EAD*, the tariff structure of the prices for access and natural gas transmission through the national gas transmission network and through the gas transmission network for transit transmission or through the transmission system shall be determined by the operator.

According to Art.21, paragraph 1, item 13 of the Energy Act, EWRC shall determine the rules for access to the gas transmission network, the gas distribution network and the natural gas storage facilities, including quality standards of services and supplies, and shall review them if needed in order to ensure effective access. Pursuant to that EWRC has adopted Rules on granting access to the gas transmission and/or gas distribution networks and on access to natural gas storage facilities. The rules aim to ensure that transmission and distribution system operators offer services to all network users on a non-discriminatory basis. These rules shall also ensure that the natural gas storage facilities operator provides access on equal terms to entities meeting the conditions set out therein. According to the rules, access to gas transmission and/or gas distribution networks may also be granted to entities residing in an EU member state or entities registered in countries with which the Republic of Bulgaria has signed international treaties for mutual application of the respective EU laws, provided there are system interconnections in place, and in compliance with the provisions of Article 176a of EA. According to Art.32 of the rules, EWRC shall supervise the implementation of these rules under the terms and conditions of EA. According to Art.76, paragraph 4 of EA, EWRC shall exercise current control over the conformity of the licensed activity with the license conditions, including the obligations to provide access to the networks, to the storage facilities and services for temporary gas storage, as well as the correct implementation of the access conditions. In fulfilment of its control powers under EA, EWRC shall conduct through the persons authorized thereby inspections - scheduled according to an approved schedule and extraordinary on complaints and alerts. Based on the inspection results, the officials may give obligatory instructions to the inspected persons, draw up acts for establishing administrative violations and propose the imposition of coercive

administrative measures. EWRC may also notify the specialized control bodies with a view to taking measures within their competence; suspend, amend or withdraw the issued license.

4.1.2. Balancing

In connection with the abolition of the balancing regime under interim measures according to Regulation (EU) № 312/2014, in 2019 EWRC adopted amendments to *Natural Gas Trading Rules* (Decision under Protocol № 122 of 11.07.2019, item 3, published in SG, issue 57 of 19.07.2019) and of *Natural Gas Market Balancing Rules* (Decision under Protocol № 122 of 11.07.2019, item 4, published in SG, issue 57 of 19.07.2019), as well as a new *Daily Imbalance and Neutrality Charge Calculation Methodology* (Decision under Protocol № 122 of 11.07.2019, item 5, published in SG, issue 57 of 19.07.2019). As a result of the amendments, Regulation (EU) № 312/2014 has been implemented in its entirety and 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. That adoption has enabled natural gas supply for purchase and sale through market mechanisms to be in place, 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. It aims to increase natural gas market liquidity and transparency in transactions with short-term products. The amendments to the Methodology introduced changes in the applicable balancing regime. The 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. As a result, clear conditions for imbalance and neutrality charges calculation have been created, both for transmission system operator and for all market participants. It has enabled network users to balance their balance portfolios efficiently by also achieving discipline of transmission system users. Implementation of the methodology aims to increase short-term gas market liquidity on the territory of the country through transparent and non-discriminatory rules and transparent imbalance charges reflecting the actual balancing costs.

4.1.3. Cross-border issues

EWRC monitors the level and effectiveness of market liberalization and competition, monitoring the connection with the energy markets of other countries, and in exercise of its regulatory powers 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 a competitive market for energy activities, where the conditions so permit; creating incentives for effective development of secure, reliable and efficient networks in accordance with the customers interests. EWRC monitors the implementation of gas network operators investment plans to ensure benefit of all participants, sufficient and available capacity for all, monitors to prevent the restriction or distortion of market competition and its effective functioning.

EWRC supervises the security of supply, monitoring the balance between natural gas supply and demand on the national market, the level of expected future consumption and projected additional capacity under planning or construction, the quality and level of maintenance of networks and overcoming the shortage of suppliers or traders.

The transmission system operator shall ensure sufficient cross-border capacity to integrate European gas transmission infrastructure while meeting all economically reasonable and technically feasible capacity requirements and to comply with gas supply security requirements, by planning its investments to ensure long-term network capacity to reasonably cover demand and ensure security of supply.

Pursuant to Art.16, paragraph 3 in conjunction with point 2.2 of Annex I to 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 (Regulation (EC) № 715/2009) and Art.11, paragraph 1 of the Rules for access to the gas transmission and/or gas distribution networks and the natural gas storage facilities, EWRC approved *Congestion management procedures in the event of contractual congestion*, published in SG, issue 78 of 29.09.2017, effective 29.09.2017. These procedures apply to entry and/or exit interconnection points that connect the national gas transmission network or the gas transmission network for transit transmission with the transmission networks of adjacent to Republic of Bulgaria Member States, except for interconnection points with third countries. In the event of capacity increase through oversubscription and buy-back scheme, the TSO shall regularly and upon request of the NRA provide all relevant data on the scheme operation for evaluation. EWRC has the power to request the operator to review the scheme.

When applying the long-term use-it-or-lose-it mechanism, the TSO shall send to the Regulator once a year the necessary documents proving the use of the agreed long-term capacities at the respective points for the periods of the monitoring period (previous 12 months). Together with the notification, the operator shall send a reasoned opinion with a proposal for undertaking or not undertaking actions for capacity withdrawal, incl. a cost-benefit analysis of the possible withdrawal impact on the operator's revenue. Based on the TSO information and opinion, EWRC shall check whether the conditions for capacity withdrawal are met in respect of a network user at a given point. In case the conditions are met, EWRC shall inform the user that it has initiated a procedure to withdraw underutilized capacity, indicating the amount of maximum capacity that can be withdrawn from it and the period of time. EWRC shall provide the user with a deadline to provide an opinion and justification on the reasons for non-utilization of capacity. If the user fails to provide an opinion and justification within the deadline set by the Regulator or on the basis of the opinion and justification provided, the Regulator may consider that there is no valid reason for underutilization and may decide to withdraw capacity from that user. The decision shall specify the amount of capacity, the period for which it will be withdrawn, the start and end date of the period during which this capacity will be offered to other users, with a maximum withdrawal period of one year. EWRC shall notify the user of the decision. The Regulator shall, by decision, terminate the capacity withdrawal procedure when it considers that there is a valid reason for the underutilization of capacity. The Regulator shall notify the user and the operator of the decision.

In pursuance of its powers to cooperate on cross-border issues with the regulatory authorities of other EU Member States, by Decision under Protocol № 68 of 25.04.2019, item 4,

EWRC adopted an opinion on the Second Report of the Greek transmission system operator DESFA SA on the interim measures implementation pursuant to Regulation (EU) № 312/2014 of the European Commission of 26 March 2014 establishing a Network Code on Gas balancing of Transmission networks.

By Decision under Protocol № 58 of 03.04.2019, item 5, EWRC adopted a draft ACER Decision for conducting a binding phase for incremental capacity market offering at level I and level II at the Mosonmagyaróvár interconnection point from Hungary to Austria (HUAT project), which has a direct impact on the Project “Expansion of the gas transmission system from the Turkish-Bulgarian to the Bulgarian-Serbian border”, as a first stage of the Balkan Gas Hub concept. The project implementation is in line with Decision № 847 of 22.11.2018 of the Council of Ministers and Decision of 30.11.2018 of the National Assembly of the Republic of Bulgaria for amendment of the Energy Strategy of the Republic of Bulgaria until 2020 (prom.SG, issue 101 of 07.12.2018). ACER decision will allow the potential incremental capacity to be offered in a capacity allocation procedure, and the implementation of the Project depends on the results of the economic test provided for in Regulation (EU) 2017/459.

Based on Part IV, items 4.3.1 and 4.4.1 of the Final Joint Decision of the Energy and Water Regulatory Commission and the Energy Regulatory Authority of Greece on the exemption application submitted by ICGB AD, an integral part of Decision № P-BO-2 of 08.08.2018, EWRC approved by Decision № K-1 of 08.10.2019 the Network Code of IGB Pipeline and its annexes, incl. IGB Tariff Code. As a next step EWRC shall issue a license to ICGB AD and shall certify the project company as an independent gas transmission operator in accordance with the Gas Directive and the terms of the Final Joint Opinion of EWRC and RAE.

IGB Interconnector is a major infrastructure project whose implementation will change the energy map in the region and Europe. New traders will enter the Bulgarian gas market after the gas pipeline commissioning. When commercial operation starts, the remaining unreserved capacity can be offered, which will create additional potential and opportunities for more market participants to enter the market. In this regard, the importance of the project is not only strategic in terms of diversification of sources and security of gas supply, but also key to the development of a more open, dynamic and competitive gas market in Bulgaria. Placed in a more competitive market environment, natural gas traders will offer better prices and conditions for customers in Bulgaria, which in turn will have a beneficial impact on natural gas competitiveness and will have a positive effect on the country's economy.

By Decision № Д-1 of 21.12.2018, EWRC approved *Binding rules* and *Price methodology for capacity allocation* within the binding Phase 3 of the Open Season Procedure for Project on development and expansion of Bulgartransgaz EAD gas transmission system. The new gas infrastructure planned for construction includes two connection points with neighbouring gas transmission systems - IP Strandja 2/Malkoclar (from the Republic of Turkey to the Republic of Bulgaria) and IP Kirevo/ Zaychar (from the Republic of Bulgaria to the Republic of Serbia). In 2019, a new gas transmission pipeline with a length of 11 km (DN1200) was built from the Bulgarian-Turkish border to Strandzha compressor station. As of 01.01.2020, the natural gas delivery point on the territory of Bulgaria was changed from Isakcha and Negru Voda to Strandzha 2/Malkochlar.

According to Art.21, paragraph.3, item 8 of the EA, EWRC shall approve a ten-year network development plan of the transmission network, shall monitor and control its implementation under the provisions and in accordance with the Ordinance № 3 on licensing the activities in the energy sector. EWRC shall examine whether the ten-year network development plan covers all investment needs identified during the consultation process, whether it is consistent with the TYNDPs in the European Union and shall monitor and evaluate its implementation. If the ITO fails to execute an investment, which, under the TYNDP is to be executed in the following three years, EWRC shall require the operator to make the investments, in case they are still needed and to provide their reimbursement through the network services prices, unless the failure is due to compelling reasons beyond the network operator's control.

The TSO shall develop, consult with all stakeholders and submit to EWRC, by 30 April each year, a ten-year transmission network development plan. When drawing up the plan, the TSO shall take into account the available information on forthcoming changes in production, supply, consumption and exchange with other countries, with the investment plans of regional networks and networks within the European Union, as well as investment plans for natural gas storage facilities. EWRC shall consult all current or potential network users on the ten-year transmission network development plan in an open and transparent manner.

In 2019, EWRC adopted Decision № ДИПМ-1 of 09.08.2019, approving the Ten-Year Plan for Development of the Networks of Bulgartransgaz EAD for the period 2019 - 2028. The expected outcome of the plan is to increase the quality and volume of services offered by Bulgartransgaz EAD, related to the transportation and storage of natural gas, in direct connection with the establishment of the country as a significant regional gas centre - hub, which creates technical opportunities for natural gas entry and exit flows coming from various sources and through new routes.

4.1.4. Implementation of the Network Codes and Guidelines

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

Pursuant to Commission Regulation (EU) 2017/459 of 16 March 2017 establishing a network code on capacity allocation mechanisms in gas transmission systems and repealing Regulation (EU) № 984/2013 (Regulation (EU) 2017/459), Bulgartransgaz EAD has introduced an electronic capacity booking platform - Regional Booking Platform (RBP). On the RBP platform network users shall 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 on the national gas transmission network and the gas transmission network for transit transmission. 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.

The Bulgarian TSO, Bulgartransgaz EAD, cooperates with the adjacent transmission network operators in order to coordinate the maintenance (repairs) in accordance with Art.4 of Regulation (EU) 2017/459.

Bulgartransgaz EAD regularly exchanges information with the adjacent transmission network operators according to 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 the Platform of firm capacity products, as well as in case of differences between the technical and bundled capacities, these capacities are offered as unbundled capacity products (providing capacity at the respective interconnection point only in Bulgartransgaz EAD gas transmission network).

- **Balancing NC (BAL NC)**

Due to the lack of sufficient liquidity on the short-term wholesale gas market, by Decision № BM-1 of 29.09.2015, EWRC has approved for Bulgartransgaz EAD interim measures under Art.46 of Regulation (EU) № 312/2014 - alternative to a balancing platform, interim imbalance charge and tolerance in accordance with Regulation (EU) № 312/2014. In connection with the interim measures abolition, and pursuant to § 29, para.1 of the Transitional and Final Provisions of EA Amendment Act, (prom.SG, issue 79 of 08.10.2019), EWRC approved a Balkan Gas Hub EAD Trading Platform for trade in natural gas and designated the company as an operator of the trading platform (EWRC Decision under Protocol № 209 of 29.11.2019, item 1). Through the platform, trading participants may post and accept, as well as revise and withdraw, offers for gas purchase and sale in order to meet short term fluctuations in gas demand or supply, under the conditions applicable on the platform, at which the transmission system operator trades for the purpose of undertaking balancing actions. The trading platform offers short-term standardized products intraday and day ahead - title, locational, temporal and temporal locational, according to the trading rules pursuant to Regulation (EU) № 312/2014. 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.

For the purposes of balancing the natural gas market, the TSO introduced a Commercial Dispatching Platform (CDP), which assumes the functions of a virtual trading point (VTP). It has been operational since 1 January 2017, and 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.

Since 1 October 2017, trade notifications have been 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 Bulgarian TSO provides information to network users under Art.32 of Regulation (EU) № 312/2014 on the general state of the transmission network in accordance with point 3.4 (5) of Annex I to Regulation (EC) № 715/2009 on its website. Information with real data and

forecast of the linepack until the end of the gas day shall be provided and this information shall be updated every hour. The gas transmission operator shall provide information on balancing actions, incl. information on the gas purchased and the corresponding costs. Bulgartransgaz EAD has chosen “Option 1” of an information provision scheme where the information on daily and non-daily measured outflow is based on the distribution of measured flows during the gas day, and this information is provided to users individually through the CDP platform. Bulgartransgaz EAD awards balancing service contracts that are carried out on a market basis through a transparent and non-discriminatory public tendering procedure in accordance with the Balancing Rules.

The TSO procures balancing services carried out on a market basis, through a transparent and non-discriminatory public tender procedure according to the Balancing Rules approved by EWRC, concluding gas supply contracts at the gas transmission system entry point with a maximum duration 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 (3) (b) (a) of Regulation (EU) № 312/2014 shall be stored in the own gas storage facility – Chiren UGS and shall be used (extracted and injected) where necessary, depending on the cumulative imbalances of network users.

As of 1 October 2018, the small adjustment to the natural gas balancing price has been reduced from 10% to 8%.

According to Bulgartransgaz EAD, 437 199,738 MWh of natural gas were purchased in 2019 for balancing the national gas transmission network and the transit transmission network, and 256 186,318 MWh of natural gas were sold for balancing these networks.

- **Interoperability and Data Exchange NC**

In accordance with Commission Regulation (EU) № 703/2015 of 30 April 2015 establishing a network code on interoperability and data exchange rules (Regulation (EU) № 703/2015), Bulgartransgaz EAD has signed Interconnection agreements (IA) with the Romanian and Greek gas TSOs for the interconnection points with TRANSGAZ SA, Romania, and DESFA SA, Greece, for Negru Voda 1/Kardam IP, Negru Voda 2,3/Kardam IP, Ruse/Giurgiu IP and Kulata/Sidirokastron IP. Common nomination and re-nomination procedures for booking capacity products, as well as a default nomination rule establishment are essential parts of IA signing.

- **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 the NRA as referred to in Article 27. The reference price methodology to be applied shall depend on the findings of the periodic consultations carried out in accordance with Article 26 by the TSO or the NRA, as decided by the NRA.

In connection with the above, by Decision № PTIIIГ-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 under the conditions set in the Regulation. Pursuant to Regulation (EU) 2017/460 and EWRC decision, Bulgartransgaz EAD held a consultation in accordance with Art. 26. Before taking the decision referred to in Article 27 (4) thereof, EWRC shall consult the national regulatory authorities of all directly involved Member States and the relevant stakeholders referred to in Article 27, paragraph 1.

In 2020, EWRC will adopt amendments to the *Methodology determining prices for access and transmission of natural gas through the gas transmission networks owned by Bulgartransgaz EAD* in order to bring it in line with Regulation (EU) 2017/460.

4.2. Competition and market operation

4.2.1. Wholesale markets

According to the Energy Act, natural gas transactions are carried out on the basis of written contracts, and as of 8 Oct 2019 natural gas transactions are carried out and/or on natural gas exchange market, in compliance with the EA and the Natural Gas Trading Rules adopted by EWRC. Natural gas transactions on the natural gas exchange market shall also be carried out in compliance with the natural gas exchange market operation rules adopted by EWRC. The rules are published by the natural gas exchange market operator on its website.

In 2019, the key natural gas market participants in the country were:

- Bulgartransgaz EAD – combined operator, performing gas transmission and gas storage activities;
- Bulgargaz EAD – public provider in Bulgaria, providing gas supplies to end suppliers and customers connected to the gas transmission network at prices regulated by EWRC;
- 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 supplying natural gas to customers connected to the distribution networks in the respective licensed territories”;
- Non-household customers connected to the gas transmission network.

EA 2019 amendments introduced new participants in the natural gas market:

- Market Maker – an entity, having concluded an agreement with the natural gas exchange market operator for natural gas demand and supply for the purpose of providing liquidity of the natural gas exchange market and forming price signals;
- Liquidity Provider – an entity that has concluded an agreement with the natural gas exchange market operator for demand and supply of natural gas for the purpose of providing liquidity of the natural gas exchange market.

Natural gas transactions are concluded at prices regulated by EWRC for services of public interest regarding transmission, distribution and supply. Production companies, natural gas traders, natural gas end suppliers, transmission system operators, natural gas storage facility operators, liquefied natural gas facility operators, customers connected to the transmission system, market makers and liquidity providers conclude transaction at freely negotiated prices.

The public provider concludes transactions at freely negotiated prices in its capacity of a liquidity provider, natural gas trader and market maker.

Natural gas prices shall not be subject to regulation when the Regulator finds out the existence of competition, which creates preconditions for free negotiation of prices under market conditions.

The total length of Bulgartransgaz EAD gas transmission networks as of the end of 2019 was 2800 km, including: national gas transmission network with a length of 1835 km (including gas pipeline branches); gas transmission network for transit transmission with a length of 965 km (including newly built 11 km). The structure of the gas transmission networks users, who carried out transmission activities in 2019, was the following: public provider; two end suppliers; two non-household customers; 25 natural gas traders.

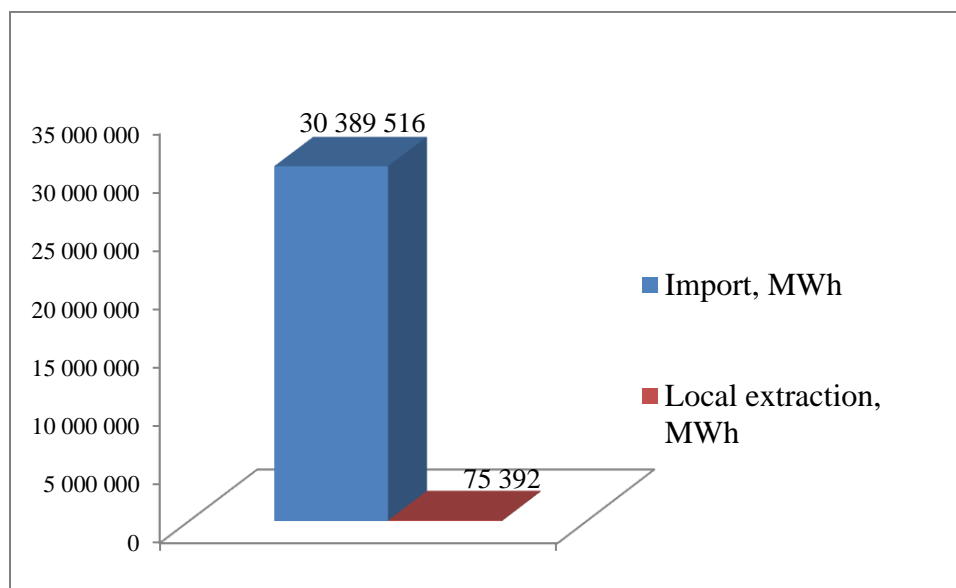
In 2019 Bulgartransgaz EAD transported 33 831 985 MWh natural gas from imports and local production, incl. for end customers on the territory of the country and for export outside the territory of Bulgaria. The quantities of natural gas transferred by Bulgartransgaz EAD for export outside the territory of the Republic of Bulgaria were 3 367 077 MWh.

2019	
Import, MWh	3 260 597
Local extraction, MWh	106 480
Total, MWh	3 367 077

Imports and local production natural gas quantities transported by Bulgartransgaz EAD intended for the Bulgarian domestic market were 30 464 908 MWh:

2019	
Import, MWh	30 389 516
Local extraction, MWh	75 392
Total, MWh	30 464 908

The graph below shows the ratio between the natural gas quantities transported from imports and local production for the domestic market in 2019:



Natural gas quantities transported by Bulgartransgaz EAD for the domestic market in 2018 and 2019, by sources of supply, are presented in the table below:

№	Type of supply	2018		2019	
		Quantity, GWh	Percentage	Quantity, GWh	Percentage
1.	Imported natural gas including	31 630	99,9%	30 390	99,8%
1.1.	Russian Federation	31 613	99,8%	24 802	81,4%
1.2.	Other sources	17	0,1%	5588	18,4%
2.	Local production	33	0,1%	75	0,2%
	Total	31 663	100%	30 465	100%

The table shows the trend of Russian gas imports decrease in 2019 compared to the previous year. In 2018, 99.9% of natural gas supply was from Russia and the share of other sources was 0.1%. In 2019, Russian natural gas supply for domestic market needs decreased to 81.4%, while supply from other sources increased to 18.4%. Local production share in recent years remains insignificant and is below 1%.

There is only one underground gas storage facility in Bulgaria – Chiren UGS, which has 22 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. The technological process related to the operation of "natural gas storage" service is seasonal (cyclical) and consists of extraction and injection of gas from/into the underground gas storage. By storing natural gas quantities at Chiren UGS, seasonal fluctuations in supply and consumption in the country are compensated. To ensure the security of natural gas supplies in the country, the Chiren UGS natural gas quantities are mainly relied upon. Another important role of the gas storage is the provision of gas for balancing, as well as to maintain gas transmission system stability. In 2019, Bulgartransgaz EAD injected 410 million m³ of natural gas and withdrew 358 million m³, and as of 31.12.2019 there have been 1164 million m³ of natural gas in the gas

storage, of which 750 million m³ buffer gas. Chiren UGS expansion is an important prerequisite for a gas distribution centre establishment in Bulgaria.

Natural gas delivery and supply on the territory of the Republic of Bulgaria is carried out through a gas transmission network owned by Bulgartransgaz EAD and through gas distribution networks owned by the respective gas distribution companies (DSO). The transit gas pipeline, owned by Bulgartransgaz EAD, transports natural gas to the territories of Turkey, Greece and North Macedonia.

In 2019 natural gas supplies for the domestic market were carried out by the public provider Bulgargaz EAD, by extractive companies - Petroceltic Bulgaria EOOD and Exploration and Production of Oil and Gas AD and by natural gas traders.

Natural gas quantities purchased from Bulgargaz EAD in 2019, both imports and local production, were as follows:

- imports – 28 982 439,444 MWh, which was 99.24% of the total delivered gas;
- local production - 57 021,790 MWh.

The company has also purchased natural gas for balancing at the amount of 164 623,482 MWh.

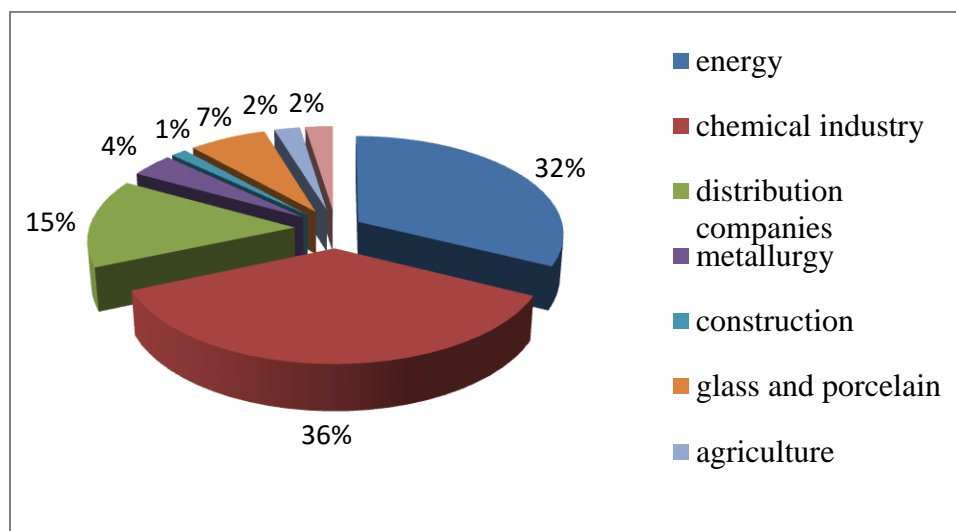
Natural gas quantities sold by Bulgargaz EAD in the Republic of Bulgaria and abroad were as follows:

- locally at regulated prices – 29 108 404,503 MWh, of which 4 205 348,089 MWh to end suppliers and 24 761,937,665 MWh to customers connected to the gas transmission network;
- abroad at freely negotiated prices - 121 772,153 MWh.

The consumption structure in the country by sectors was as follows:

- energy – 9 354 401,383 MWh or 32.29%;
- chemical industry – 10 501 924,627 MWh or 36.25%;
- distribution companies – 4 205 348,089 MWh or 14.52%;
- metallurgy – 1 125 050,004 MWh or 3.88%;
- construction – 400 609,823 MWh or 1.38%;
- glass and porcelain – 2 005 074,160 MWh or 6.92%;
- agriculture – 668 124,678 MWh or 2.31%;
- other industries – 706 752,990 MWh or 2.44%.

In 2019, the liquefied natural gas supply to Bulgaria amounted to nearly half a billion cubic meters.



There are two extractive companies on the territory of Bulgaria. Oil and Gas Exploration and Production AD has extracted 164 560,260 MWh of natural gas from local extraction, of which 19 260,230 MWh were sold to one end customer, 36 495,357 MWh to three gas distribution companies and 102 846,332 MWh to two traders. For its own use, the extractive undertaking has consumed 5 858,341 MWh. Petroceltic Bulgaria EOOD has extracted and sold traders 140 963,584 MWh of natural gas.

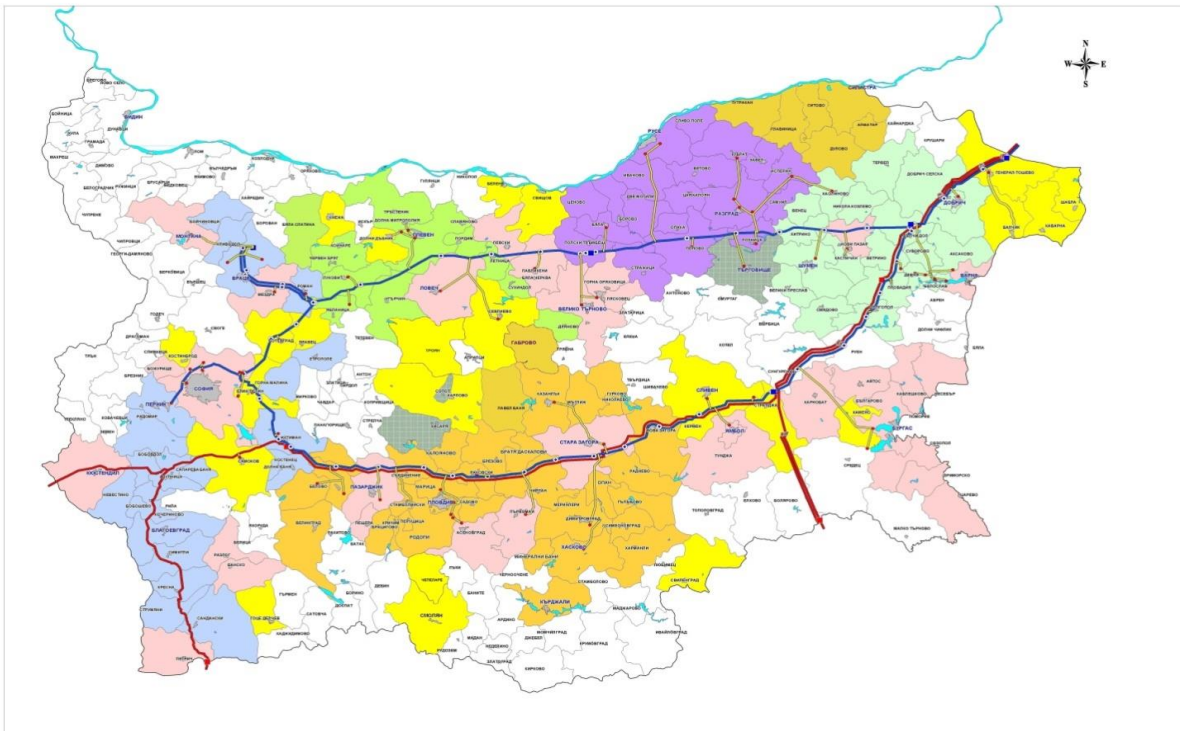
In 2019, the activity “trade in natural gas” was not subject to licensing under EA. EWRC does not keep a register of natural gas traders and accordingly does not have information on the quantities of natural gas sold by natural gas traders to customers in 2019. By the EA amendment, SG, issue 57 of 2020, effective as of 26.06.2020, licensing of the activity “trade in natural gas” was introduced. As of 1 January 2021, natural gas traders may submit application for a license to the regulatory authority. As of 1 October 2021, trade in natural gas will be performed on the basis of a license.

Gas wholesale market indicators	2016	2017	2018	2019
Gas production, TWh/y	0.748	0.58	0.125	0.182
Number of active wholesale companies	9	9	22	38
Biogas injected into the gas grid, TWh/y	0	0	0	0
Total gas demand, TWh/y	32.553	55.079	31.663	30.465
Gas demand for power generation, TWh/y	0.814	0.82	0.782	0.75
Imports volume (by pipeline and LNG), TWh/y	188 302	208 498	184 200	107 229
Exports volume, TWh/y	155.19	173.835	151.302	76.294
Main origin of gas imports (and %)	Russian Federation 99.99	Russian Federation 99.9	Russian Federation 99.8	Russian Federation 81.4
Number of suppliers with different origin of gas supplies	2	2	3	3
Market share of the largest entities supplying natural gas, (CR3)	97.7	88.6	90.6	89.3

4.2.2. Retail market

Natural gas supply on the territory of Bulgaria is carried out through a gas transmission network for directly connected customers and through gas distribution networks owned by the respective gas distribution companies. At the end of 2019, 24 companies encompassing 35 areas were licensed on the territory of Bulgaria, covering 172 municipalities, representing 65% of all municipalities in the country. Nine companies deliver supplies of compressed natural gas to customers in municipalities that have no connection to the transmission network. An important prerequisite for increasing the number of natural gas industrial and household customers in the country is the construction of gas pipelines connecting the gas distribution networks of the licensed areas with the gas transmission network.

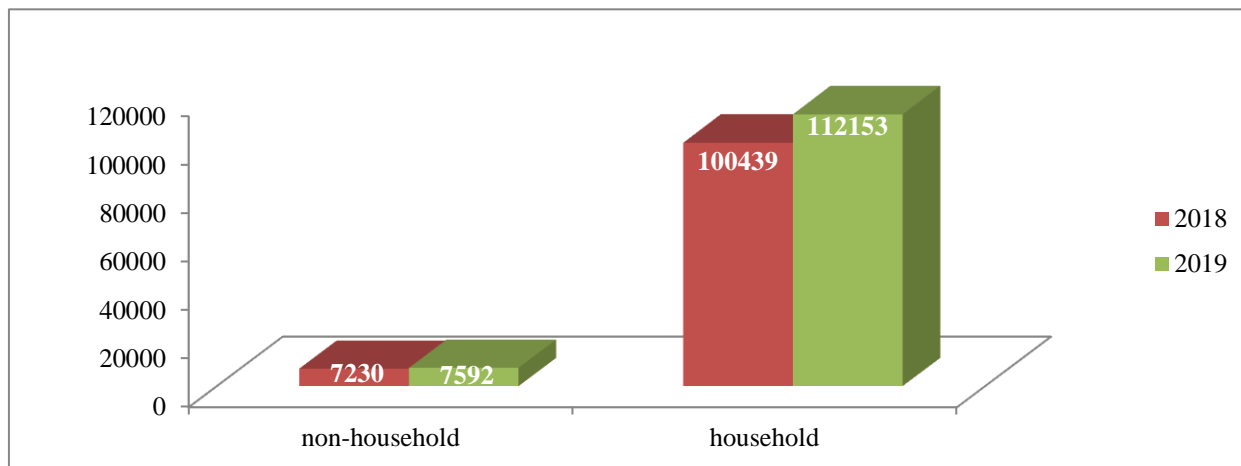
The map below illustrates the location of the licensed areas for the “gas distribution and supply” activities.



The gas distribution network built in 2019 was 186 771 m, and the total length of gas distribution networks in the country is 5 156 965 m. The investments made by gas DSOs in 2019 were BGN 26 548 thousand. Some of the gas distribution companies supply their customers with compressed natural gas due to the lack of connection of the distribution network built by them with the gas transmission network, which increases the final gas price. This prevents the service to reach a larger number of customers.

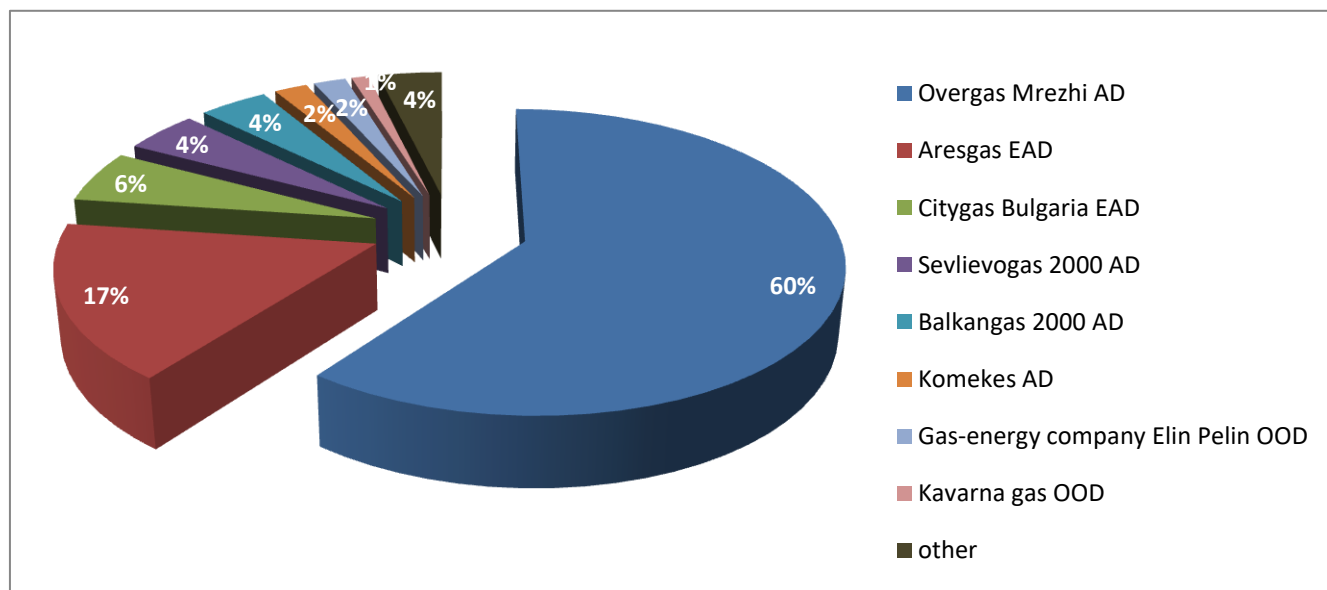
The total number of gas distribution companies' customers as of 31.12.2019 was 119 745, of which 7 592 (6.3%) non-household and 112 153 (93.7%) household customers. The number of

customers has increased by 11% in one year - from 107 669 in 2018 to 119 745 in 2019. Household customers have increased by 12% and non-household - by 5%.



Overgas Mrezhi AD serves the largest number of customers – 72 355, which is 60% of all natural gas customers in the country, followed by Aresgaz AD with 17%, Citygaz Bulgaria EAD with 6%, Sevlievogas 2000 AD with 4%, Balkangas 2000 AD with 4%. Total consumption by distribution companies’ customers in 2019 was 5 436 093 MWh, of which 4 367 246 MWh of non-household customers (80%) and 1 068 846 MWh of household customers (20%).

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



According to the Herfindal-Hirschmann Index (HHI) (a commonly accepted measure of market concentration and monopoly existence, used by the Council of European Energy Regulators), a highly concentrated market exists at a HHI value above 2000. According to the EC Guidelines on the assessment of horizontal mergers under the Council Regulation on the control

of concentrations between undertakings (2004/C31/03), high concentration of monopoly power exists at a value above 2500. The HHI value in terms of the natural gas supplied by gas distributors to household consumers in Bulgaria is 4127, and in the terms of non-household customers it is 3286 and shows a high market concentration. The HHI value for companies supplying natural gas to customers connected to gas distribution networks in Bulgaria is 4127 for households and 3286 for non-households.

In 2019, an increase in the number of household customers has been observed compared to 2018, which is associated with the implementation of the project Demand Side Residential Energy Efficiency through Gas Distribution Companies in Bulgaria (Project DESIREE GAS). This project aims to provide a dedicated and efficient mechanism to support gasification of Bulgarian households in accordance with the requirements of Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC. It encourages the most efficient technologies and supports the transition from carbon-intensive sources of energy to natural gas, thereby reducing energy consumption and carbon emissions in the residential sector in Bulgaria. Grants for Bulgarian households' gasification under the project DESIREE GAS amount to 30% of eligible expenditure for housing installations. In addition, the connection fee is fully funded.

The necessary infrastructure for natural gas distribution in the country is under construction and the connected household customers to the gas distribution networks are few. The regulatory mechanism applied by EWRC provides incentives for gas distribution companies to continue the development of gas distribution networks and the connection of new customers in order to gradually increase the natural gas consumption. In this regard, EWRC established marginal prices for natural gas sale, which enables gas distribution companies to sell to end users at prices lower than the established ones, thus encouraging competition in the market.

The Regulator monitors and exercises control on the gas distribution companies in terms of their performing the parameters set out in their approved business plans relating to their license obligations for the activities of natural gas distribution and natural gas supply by end supplier.

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 on the energy market.

Gas price regulation is carried out in accordance with EA and ONGPR adopted by the Regulator. Pursuant to Art.30, paragraph 1, items 8, 11 and 12 of EA, the prices at which end suppliers sell natural gas to customers connected to the relevant gas distribution networks, the prices for connecting customers to the networks and the prices for access and transmission through the transmission networks shall be subject to regulation by EWRC. Pursuant to Art.30, paragraph 1, item 7 of EA, EWRC shall approve prices at which the public provider sells natural gas. With the EA amendments of 2019, customers connected to the gas transmission network shall be excluded from the list of entities buying natural gas from the public provider at regulated prices, with the exception of companies that have been granted a license for heat production and

transmission.

ONGPR sets out natural gas price regulation methods, rules for price formation or determination and amendment, the 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.

The prices that are 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 (household and non-household), consumption evenness and unevenness and the relevant consumption. EWRC approves prices for transmission through the gas distribution networks to end customers upon proposals of the gas distribution companies.

The Regulator shall publish on its website the energy enterprises’ price proposals together with all initial data, the open and closed sessions and public discussions minutes, the price decisions, the adopted regulations, rules, methodologies and guidelines.

Within the price approval procedures, EWRC shall monitor the fulfilment of the obligation of energy undertakings supplying natural gas at regulated prices and transmission and distribution system operators to disclose in the mass media their proposals for approval of the new prices or current prices amendment within one month prior to submission of price proposals to the Regulator.

After receipt of the applications for price approval and/or adjustment, the Regulator shall adopt a report from the officials concerned and a draft decision, which shall be announced on its website. The Regulator shall hold an open session to discuss the report and a public discussion on the adopted draft decision with stakeholders according to Art.14 of EA. At the open session, the Regulator shall discuss the report with the energy companies and shall set a deadline for submitting opinions. The Regulator shall consider any comments received from stakeholders and give reasonable opinion publishing the reasons on its website.

The 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. With EA Amendment Act, prom.SG, issue 79 of 8.10.2019, new powers were imposed on EWRC: to control the transition from a regulated market to an organized market at freely negotiated prices in accordance with Gas Trading Rules; to approve rules on organized natural gas exchange market operation; to approve an agreement for implementation of gas release programme, including its pricing mechanisms and monitor its implementation.

The new regulatory powers implemented through EWRC decisions created the necessary conditions for real natural gas market liberalization in Bulgaria and achieving diversification of supply sources and a competitive environment.

As of 2 January 2020, multilateral trading of the organized gas exchange has started, using the trading platform of Balkan Gas Hub EAD, including a short-term segment (spot), a long-term segment and a brokering service.

The short-term (spot) segment of the platform will offer short-term standardized “intraday” products, “day-ahead” products and products for the purposes of balancing the network of the TSO. Trade will be conducted on an anonymous basis in accordance with the provisions of Regulation (EU) No 312/2014.

The long-term segment of the trading platform will offer products traded on medium-term and long-term basis, anonymously, as follows: monthly (up to 60 months ahead); quarterly (up to 20 quarters ahead) and annual (up to 5 calendar years ahead).

The brokering service enables conclusion of gas purchase contracts by end customers/end suppliers directly connected to the Bulgarian gas transmission system, without incurring costs for membership of the trading platform and without the need to obtain access to network access and transmission services through the network. The brokering service will also provide the environment of administration of contracts concluded before 2 January 2020 regarding gas purchase and sale for a period after 1 January 2020, less than or equal to one-year, in compliance with the requirements of Art.176, paragraph 3 of the Energy Act.

One of the main EWRC guiding principles is to prevent the 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 on 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. In exercising its powers to approve corporate transformation of licensees, to authorize the execution transactions of uncompleted construction sites or assets disposal, and to authorize the establishment of a

guarantee deposit/mortgage on property and assets, which constitute a means of exercising the licensed activity, EWRC has the right to request the opinion of CPC on the specific case before making a decision or giving permission. 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 regard 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 constantly monitors the market in order to ensure non-discrimination between all market participants, as well as between participants of one and same category and to promote to 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.

Within the framework of Balkan Advisory Forum of the Balkan Peninsula regulators, EWRC exchanges data on the most important market processes in natural gas sector at regional level.

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 the 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. All pricing decisions of the Regulator are publicly available on its website in order to ensure transparency.

According to Art.6 of ONGPR, energy enterprises may apply lower prices than the approved by EWRC provided this do not lead to cross-subsidization among separate activities and among customers groups too. On this regulatory basis and taking into account the energy market situation, energy enterprises can implement an effective pricing strategy, the most important being: maintaining a competitive gas price levels compared to the alternative energy sources prices, maintaining sustainable price levels for a longer period of time and ensuring the long-term efficiency of the projects through prices. According to Art.40 of ONGPR, within 7 days as of receipt of the decisions for approval of new prices the public provider, end suppliers, gas transmission and distribution network operators and storage facilities operators shall publish on their websites the approved prices, including the prices by tariff structures and the prices which they shall apply under the contracts with customers in the following price period. In case of price regulation on the basis of a methodology approved by EWRC, the energy company shall publish the set prices on its website within 7 days as of the date of the decision regarding their determination.

Retail market indicators (households)	2019
Gas consumption, MWh	1 068 846
Number of gas consumers	112 153
Number of registered suppliers	24
Number of active suppliers	24

EWRC monitors the natural gas market, ensuring non-discrimination between all market participants, as well as between participants of one and the same category, which also promotes retail market competition and proper market operation. In this regard, when exercising its control powers, EWRC carries out scheduled inspections of energy companies, as well as surprise inspections in case of filed complaints and signals.

4.2.4. Consumer protection and dispute settlement

The EA transposes the requirements of Directive 2009/73/EC of the European Parliament and of the Council of 13 July 2009 on common rules for the internal market in natural gas and repealing Directive 2003/55/EC (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 the 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; the temporary suspension conditions, termination of their provision and of the contract; rights of energy services consumers, including information concerning the procedure of considering complaints and making decision on them within three months from the receipt of any such complaints, conditions for unilateral termination of the contract by the user of energy services including upon a change of the contractual conditions and prices and 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 meter number, natural gas consumption, value added tax (VAT) and a price breakdown by components, if approved.

Energy companies 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 for 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 considering 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. The 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. Price increase notification shall be effected within the billing time limit after the entry into effect of the price increase. The end supplier shall inform the customer, together with the invoice, on the last months of each 6-month period, when the reported electricity or 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.

Under the legislation, EWRC has the power to fulfil the obligations set out in Directive 2009/73/EC, namely to act as a dispute settlement body in respect of any complaint against transmission or distribution operators in relation to their obligations and to issue a decision which shall have binding effect.

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.

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 dispute settlement EWRC does not make a ruling/decision and the procedure ends with an agreement. It involves the dispute parties and a conciliator - a member of the EWRC working group that has been designated to handle the complaint. The conciliator uses all reasonable means and efforts to resolve the dispute by proposing to the parties a resolution and if consent is achieved - to draft a written agreement.

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. This period may be extended by another two months if the nature of the dispute requires the Regulator to collect additional data and information. Upon complainant consent the extended period may be extended again by another two months. When EWRC finds a complaint being justified, it issues a decision with binding guidelines on law implementation. EWRC decisions are subject to appeal before the Administrative Court - Sofia City under the Administrative Code.

The number of complaints in gas sector filed at EWRC in 2019 remains low compared to the other three sectors. Out of 119 745 natural gas customers, complaints were filed by 0.02 % of them. The main reason for the insignificant number of complaints is the small number of basified sites in the country, both household and non-household. The tendency of maintaining a low level of complaints in the sector is also due to the fact that companies inform the clients about their rights and obligations defined in the general terms and conditions of the contracts and the rules on work with consumers, including the procedure of complaints submission and consideration. Energy companies promptly examine the complaints submitted and satisfy the reasonable ones.

Pursuant to EWRC powers to monitor all measures adopted to fulfil public service obligations, including the protection of energy services users, when carrying out scheduled inspections of energy undertakings on compliance with the licensing conditions, EWRC officials shall verify the fulfilment of their 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.

Customers submitting complaints at the gas distribution companies in 2019 represent less than 0.09% of all natural gas customers, maintaining the trend of low number of complaints compared to the number of household customers, which in 2018 was below 0.08%, and in 2017 - less than 0.06%. From a total of 35 licensed areas in Bulgaria, complaints were filed in 15 of them. The number of natural gas customers in these 15 territories (99 641) accounts for 83% of

all natural gas customers in the country. Most complaints were filed with Overgas Networks AD for the licensed territory of Sofia Municipality and Bozhurishte Municipality - 35 (0.1% of all customers of the company). This represents 33% of all complaints in the sector. The largest number of complaints is related to gas distribution networks connection and inaccurate metering of the natural gas consumed. Other complaints are mainly related to quality of supply; unfair commercial practices; contracts; restoration of gas supply; disconnection due to non-payment; content of invoices; price and others. No complaints were filed concerning compensations and switching.

Gas companies have been working to increase customers' satisfaction by reporting and analysing the received calls and inquiries and the most common reasons for the complaints, on the basis of which timely corrective actions are taken. Clients are consulted on issues related to gas supply, such as preparation of an individual offer for the construction of a gas installation, recommendations for the use of gas appliances, etc. Consultations and references are carried out on bills of consumed natural gas quantities, information on warranty and out-of-warranty servicing of gas appliances is provided, requests, inquiries and complaints are received and registered.

Natural gas companies use different information channels:

- National information telephone;
- Internet site;
- E-mail address.

Using each of them, customers can get assistance on issues related to gas supply, as well as to register alerts and complaints.

Some companies have organized reception time and conduct customer satisfaction surveys.

Consumer empowerment indicators (Gas-households)	2016	2017	2018	2019
Gas Consumption thousand m ³	76 049	91 203	98 893	132 941
Number of gas household customers	80 710	89 199	100 412	112 210
Number of household customers connected to gas distribution network who have switched supplier	0	0	0	0
Number of disconnections of final household consumers due to non-payment	1 420	1 796	1 497	2 104
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 customers who are vulnerable customers according to paragraph 1, item 66c of EA Supplementary Provisions	3	3	7	6
Number of household customers with smart meters	233	510	653	3 281

There has been a significant increase in installed smart meters of household customers,

which increased from 233 in 2016 to 3 281 in 2019. However, the number is only 3% of all installed meters of household customers.

The average percentage of household customers who have been disconnected due to non-payment in the period 2016 - 2019 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. The lack of a well-developed liquid gas market caused by the dominant supply of Russian gas to the country provided by the public provider Bulgargaz EAD can be cited as the reason.

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). The Ministry of Energy carries out a national risk assessment for the security of natural gas supply in the Republic of Bulgaria, elaborated on the basis of Art.7 of Regulation (EU) 2017/1938. In that regard, the Minister of Energy, introduces:

- Preventive action plan drawn up on the basis of Art.72a, paragraph 1, item 1 of the Energy Act and in accordance with the requirements of Art.8 and 9 of Regulation (EU) 2017/1938;

- Emergency action plan drawn up on the basis of Art.72a, paragraph 1, item 2 of the Energy Act and in accordance with the requirements of Art.8 and 10 of Regulation (EU) 2017/1938.