

**State Energy and Water Regulatory Commission (SEWRC)  
Bulgaria**

**2007 National Report  
to the European Commission**

**July 2008**

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## **1. Foreword**

Key priority in the operation of the State Energy and Water Regulatory Commission (SEWRC) is development of effectively functioning energy market through strengthening the market model for free choice of supplier, non-discriminatory access to networks and creation of conditions for competitiveness.

The powers and obligations of the regulatory commission will be strengthened and extended to ensure the efficiency of the measure for protection of consumers and their confidence in a properly functioning market. The Commission plays an important role in promoting investments in the necessary energy infrastructure aimed at removing the existing barriers to the energy flows and, respectively, improving the security of supply.

SEWRC is member of CEER since the end of 2007 and pursues a policy in line with the European directives for establishment of a new energy policy for Europe.

Our view is that development of a single European energy market is possible via clearing the path for sustainable development, addressing the unfavourable climate change issues, guaranteeing the supply, limiting the dependence on import and diversifying the energy deliveries.

The successful implementation of this policy requires depends on the coordinated efforts of institutions and companies, both at national and at Community level.

Prof. Dr. Eng. K. Shushulov  
SEWRC Chairman

## **2. Summary \ Major Developments in the last year**

### **2.1. Basic organisational structure and competences of the regulatory agency**

Pursuant to the Energy Law, the energy-sector activities in Bulgaria are regulated by the State Energy and Water Regulatory Commission, hereinafter referred to as “the Commission”.

The State Energy and Water Regulatory Commission is an independent specialized state body whose members are elected by a decision of the Council of Ministers and are appointed by the Prime Minister. The Commission comprises thirteen members, including a Chairperson and two Deputy Chairpersons, of whom one with experience in the energy sector and the other with experience in the water supply and sewerage sector. The Commissioners’ term of office is five years. Pursuant to the stipulations of the Energy Law, a Commission member may be dismissed ahead of term upon his/her request submitted in writing, upon ascertaining incompatibility with the provisions of the Energy Law and upon inability to fulfil his/her duties.

In its activity the Commission is supported by an administration – general and specialized – according to the allocation of functions.

The general administration provides technical support to the Commission’s activity and operates through the “Administrative, Financial & Information Services and International Cooperation” Directorate.

The specialized administration supports the Commission in pursuing its powers provided for in the Energy Law and the Water Supply and Sewerage Regulation Law and is structured as two horizontally integrated directorates and four specialized sector-specific directorates:

- “Legal” Directorate;
- “Economic Analyses and Consumer Affairs” Directorate;
- “Electricity” Directorate;
- “Heat Energy” Directorate;
- “Gas Supply” Directorate;
- “Water Supply and Sewerage Services” General Directorate.

The principal purposes of the Energy Law are to create conditions for:

- high-quality and secure supply of electricity, heat and natural gas to the general public;
- energy development and energy security of the country with efficient use of energy and energy resources;
- creation and development of a competitive and financially stable energy market;
- energy deliveries at minimum cost;
- promotion of cogeneration of electricity and heat;
- development of infrastructures for transmission of electricity, natural gas, crude oil or petroleum products within and through the national territory.

The key regulatory powers of the Commission in respect of activities relative to generation, transmission and distribution of electricity, transmission and distribution of natural gas, trade in electricity and natural gas are to:

issue, modify, supplement, suspend, terminate and withdraw licences, exercise control in these fields and regulate the prices of electricity and natural gas;

adopt rules for trade in and supply of electricity and natural gas and control compliance with the said rules;

adopt and control the implementation of a methodology for setting the prices of the balancing electricity as part of the rules for trade in electricity;

establish the rules for access to the electricity and natural gas transmission networks and, respectively, to the electricity and natural gas distribution networks;

develop and control compliance with the conditions and rules for supply of electricity and natural gas to customers, including the quality of service standards;

consider requests of the energy companies for compensation for any non-recoverable (stranded) costs or any costs resulting from public service obligations imposed thereon and approve the justified amount of the said costs, as well as the manner of compensation thereof;

issue certificates to the electricity producers on the origin of the electricity commodity produced from renewable energy sources and from cogeneration;

grant consent to the division by the formation of new companies, spin-off by acquisition, merger by acquisition, or merger by the formation of a new company in respect of any energy companies which are holders of licences under the Energy Law, as well as authorize the effecting of transactions for disposition of property used in the performance of licensed activities in the cases provided for in the law, as well as of other transactions that lead or may lead to impairment of the security of supply as a result of indebtedness of the energy company;

consider complaints by customers against licensees or by licensees against other licensees, related to performance of the licensed activity.

An indicator of the SEWRC's broad powers is the right to require any information needed for execution of its regulatory functions and the obligation of energy companies to provide the said information. Furthermore, the Energy Law provides for the mechanisms for its gathering and stipulates requirements for safeguarding the information which the Commission acquires, creates and stores for regulatory purposes and disclosure of which may jeopardize the licensees' commercial interests.

The Energy Law envisages liability to a pecuniary penalty in the cases where energy companies fail to comply with their obligation to provide information to the Commission. The government authorities, energy companies and office-holders are obligated to cooperate with SEWRC in the execution of its functions.

The activity of SEWRC is transparent; stipulated are provisions for implementation of public control. In this direction the Commission conducts a procedure for public discussions with the relevant stakeholders when drafting the general administrative acts provided for in the law, and when considering other matters of public relevance concerning the energy sector development.

The Commission keeps public registers of the issued licences, issued certificates of origin, the issued permits to the energy companies – holders of licenses under the law. Decisions to issue, modify, supplement, withdraw and terminate licences and decisions to approve prices are published in the Commission's bulletin and on the internet site of SEWRC.

As far as the guarantee of the regulatory authority's independence is concerned, SEWRC has organizational autonomy, broad control powers, competency with regard to the setting of rules for trade in electricity and natural gas, technical rules for the networks, rules for access to the electricity and natural gas transmission networks and, respectively, to the electricity and natural gas distribution networks and to the gas storage facilities. Among the key indicators of SEWRC's autonomy is the regulator's right to settle disputes between licensees and between customers and licensees which is explicitly stated in the law. However, the Commission's competency in the resolution of disputes is limited because the Constitution

of the Republic of Bulgaria does not allow for establishment of special jurisdictions outside the judiciary system. In execution of this particular power assigned thereto the Commission facilitates amicable settlement of the dispute. If the dispute has been settled amicably by reaching a written agreement between the parties and any of the parties has failed to comply with the obligations thereof under the said agreement, the other party may refer the dispute subject to the agreement to a court of law for settlement. The financial resources of the SEWRC are secured through the fees collected by the Commission for fulfilment of its regulatory powers under the Energy Law, and through the fees collected for consideration of applications, for issuance of certificates, for sale of tender documents and licensing fees.

SEWRC has at its disposal efficient mechanisms to ensure execution of its decisions (enforcement powers). In this context, of importance is the regulator's right to impose penalties for failure to execute decisions it has taken. The Energy Law enables SEWRC to impose the following penalties in respect of the licensed companies: imposing pecuniary penalties and withdrawal of the license with an obligation for follow-up transfer of the rights to another person.

In line with the EU Directives and the Energy Law, the regulator is independent of the interests of the respective industry – electricity and gas supply sectors. As guarantee of such independence, the Energy Law stipulates a prohibition the Commission's members – they can not be sole traders, shareholders, partners, managing directors, managerial agents or members of management or supervisory bodies, as well as liquidators and consultants of commercial corporations engaged in activities subject to licensing under the law.

The implementation of the overall activity of the Commission in line with the principles and rules set forth in the Energy Law and in the statutory instruments of secondary legislation on its application is guaranteed through the judiciary control set forth in the Energy Law. Any decisions of the Commission, including a tacit refusal, shall be subject to appeal before the Supreme Administrative Court. Therefore, the entire activity of the Commission is subject to control by the court for conformity with the law.

As per the Energy Law, key principle guiding the SEWRC in execution of its regulatory powers is preventing and precluding the limitation or distortion of competition on the energy market. In implementation of this principle, SEWRC may notify the Commission for the Protection of Competition to initiate proceedings as per the stipulations of the Protection of Competition Law. SEWRC's role is to create conditions preventing abuse of market power, while the Commission for the Protection of Competition is competent to take actions upon occurrence of such abuse. In order to ensure efficiency of actions aimed at preventing and precluding the limitation or distortion of competition on the energy market, SEWRC and the Commission for the Protection of Competition have established close relationships of collaboration. The Energy Law provides for multiple powers of the Commission, the exercising of which ensures availability of efficient monitoring mechanisms for the electricity and natural gas market with a view to disclosure of possible abuses of market power. SEWRC performs continuous market monitoring with a view to ensure non-discrimination among all market players and among the market players falling within the same category, along with efficient competition and correct market functioning. With regard to this, in execution of its control powers SEWRC undertakes planned checks of the energy companies, as well as extraordinary checks in relation to filed complaints and alerts.

With a view to execution of its regulatory powers, SEWRC operates in close collaboration with the Commission for the Protection of Competition and with series of other non-governmental organizations for consumer protection.

Key task of the Commission is the drafting of statutory instruments of secondary legislation on the application of the Energy Law.

## **2.2. Main developments in the gas and electricity markets**

### **2.2.1. Key developments in the electricity market**

#### **Wholesale market**

In pursuance of the European directives on full liberalization of the electricity and gas markets and according to the Energy Law, the electricity and gas markets in the country are open to all consumers since 1 July 2007.

Transactions in electricity at freely negotiated prices may be concluded in between producers, traders of electricity and consumers. For convenience of the consumers in choosing a supplier, the regulator maintains on his Internet site a list of the licensed traders of electricity and their contact details.

SEWRC has adopted amendments and supplementations to the rules governing the electricity market operation, thus giving an opportunity for full electricity market opening as from 1 July 2007.

Right of access to the electricity transmission and distribution networks have the producers, the Public Provider, the Suppliers of Last Resort, all consumers and the traders. Pursuant to the Energy Law, the regulator has powers to exercise control in respect of issues concerning possible refusal of the Electricity System Operator or, respectively, of the distribution company, to grant access to the networks.

Pursuant to the Energy Law, transactions in electricity may be concluded at freely negotiated prices between the market participants or at prices regulated by SEWRC.

The conditions for participation into the operation of the electricity market, the balancing market, the mechanisms of balancing the market participants and the methodology for setting the balancing energy prices are set forth in Rules for Trade in Electricity adopted by the regulator.

The cross-border exchange of electric power at the Republic of Bulgaria is carried out on the basis of “Auction Rules” drawn up in 2007 and applied by the “Electricity System Operator” (ESO). The interconnection transfer capability (capacity) is allocated by the Auction Operator in the form of trading rights of transfer.

The ESO maintains an Internet site for the announced auctions.

For the region of South-Eastern Europe (No.8) a monthly computing model is made for allocation of capacities along Bulgarian interconnection lines, whereby the net transmission capacities (NTC) are defined on monthly basis. The said capacities are coordinated bilaterally between the neighbouring System Operators. The Public Auctions for capacities are announced on the basis of the coordinated NTC.

On his Internet site the operator prepares, maintains and publishes general and specialized information about the balancing market operation and about the transactions at freely negotiated prices.

The interconnections of the Republic of Bulgaria with the neighbouring countries – Greece, Romania, Turkey and Serbia – provide the conditions necessary for operation of an electricity market based on bilateral contracts, including mutual aid upon emergency.

#### **Retail market**

Pursuant to the Energy Law, the household customers and the small businesses – those with fewer than 50 employees and an annual turnover not exceeding BGN 19.5 million (EUR 10 million), who have not exercised their right to choose the supplier wherefrom they

purchase electricity, are protected consumers. The electricity supply of such consumers is a universal service provided under conditions of non-discrimination. Within the meaning of the law, “universal service” is the transmission, provision and supply of electricity of a particular quality, at a regulated price and under other agreed conditions, which may not be refused for reasons not specified in the law. The customers of the Supplier of Last Resort are provided with electricity under publicly known general conditions approved by the regulator. The legislative framework guarantees to the protected consumers their needs of electricity with specific quality parameters under transparent conditions and at reasonable prices.

Pursuant to the Energy Law and the statutory instruments of secondary legislation, since 1 July 2007 the regulator determines the availability for electricity generation, according to which each producer is obligated to conclude transactions with the Suppliers of Last Resort and/or the Public Provider at regulated prices. At present, the regulator determines also the price at which the Public Provider sells electricity to the Suppliers of Last Resort, as well as the prices at which the Suppliers of Last Resort sell electricity to the protected consumers who have not exercised their right to choose the supplier wherefrom they purchase electricity.

The share of transactions at freely negotiated prices on the liberalized electricity market in the country over the second semester of 2007 is 26% of the total transactions for delivery of electricity.

### **Infrastructure**

Pursuant to the Energy Law, the following prices are subject to regulation by the SEWRC:

- the prices at which the producers sell electricity to the Public Provider;
- the price at which the Public Provider sells electricity to the Suppliers of Last Resort;
- the price at which the Public Provider sells electricity to the distribution companies in order to cover the technological costs of wheeling through the distribution networks;
- the price of transmission of electricity through the transmission network;
- the price of access to the transmission network;
- the price of access to the distribution networks;
- the price of wheeling through the distribution networks;
- the prices at which the Suppliers of Last Resort sell electricity to household customers and businesses with fewer than 50 employees and an annual turnover not exceeding BGN 19.5 million.

The prices for final customers are approved upon proposals of the companies for individual consumer groups and tariff structures. The consumer groups are determined by voltage level and daylight zones.

The key consumer groups are as follows:

- Industrial consumers at high voltage (correspond to standard consumers with 24,000 MWh annual demand and 4,000 kW maximum load). The price for industrial consumers connected to the electricity transmission network (high voltage) is not subject to approval by the regulator. Such consumers buy electricity on the competitive market.

- Industrial consumers at medium voltage (correspond to standard consumers with 50 MWh annual demand and 50 kW maximum load). The price for such consumers comprises the price for electricity of a Supplier of Last Resort, the price of wheeling through the distribution network and the price of access to the distribution network.

The price for the consumers at low voltage comprises the price for electricity of a Supplier of Last Resort, the price of wheeling through the distribution network and the price of access to the distribution network.

Pursuant to the Excise Duties and Tax Warehouses Law, since 1 January 2007 the energy products and electricity are subject to levying an excise duty and, hence, the companies selling electricity to consumers for industrial needs charge an excise duty. The excise duty is charged per MWh based on the price net of VAT.

With its decisions from 2007 SEWRC approved net-of-VAT prices of the electricity (for the protected consumers) and of the energy from co-generations (CHP) and renewable energy sources (RES).

No problems and violations have been found in relation to the cross-border exchange of electricity in 2007.

### **Regulation/Unbundling**

In compliance with the requirements of Directive 2003/54/EC has been implemented legal, functional and accountancy unbundling of the activities of the Transmission System Operator and the Distribution Network Operators from the other activities of the vertically integrated companies.

Since the beginning of 2007 the Electricity System Operator (ESO) is an autonomous legal entity to whom has been granted license for “electric power system operation” activity.

The ESO ensures:

- non-discriminatory access to electricity transmission in compliance with quality requirements;
- secure, safe and efficient functioning of the electric power system;
- maintenance of balance between electricity generation and demand;
- implementation of coordinated operation of the national electric power system with the electric power systems of other countries in accordance with the international treaties;
- secure and efficient functioning of the auxiliary networks.

As regards the activity of the ESO, being part of a vertically integrated company, effective mechanisms have been established to guarantee the Operator’s autonomy, whereby the persons responsible for the management, including day-to-day operational management of the electric power system:

- can not take part in the management of other companies in a vertically integrated undertaking engaged in production, distribution, public provision, public supply and trade in electricity;
- make independent decisions when performing the duties assigned thereto;
- are obligated to exclude discriminatory conduct when performing the duties assigned thereto.

In this connection ESO prepares a compliance programme setting out the measures to meet the above mentioned objectives and containing specific obligations of the employees for meeting the said objectives. The ESO prepares an annual report on the measures to meet the said objectives and submits it to the regulator.

The ESO and the distribution company are obligated to provide the network users with access to the transmission and distribution networks under conditions of non-discrimination. They may refuse to conclude a contract for access to the respective networks in the cases where the transfer capabilities of the networks are insufficient or there are no technical conditions for measuring the consumed quantities of electricity or whenever the reliable operation of the electric power system and/or the security of supply are disturbed.

The Distribution Network Operator applies a programme for compliance with the requirements, setting out the measures taken to exclude discriminatory conduct. The programme lists the specific obligations of the employees for meeting the said objective. The person or the body responsible for the control of the compliance programme provide to the regulator an annual report with the measures undertaken, which is then published.

In 2007 has been carried out legal and functional unbundling of the activities of the electricity distribution companies.

### **Security of supply**

SEWRC has adopted a “Methodology for Reporting the Fulfilment of Target Indicators for Quality of Electricity and Quality of Service by the Distribution Companies and Suppliers of Last Resort”. This methodology settles the reporting requirements in respect of meeting the target indicators for quality of electricity, the quality of service and the manner of adjustment of the revenue requirements of the energy companies for each price period within the regulatory period depending on the attained performance level.

The indicators for quality of electricity and the quality of service include a System Average Interruption Duration Index – SAIDI, a System Annual Interruption Frequency Index – SAIFI, and quality of service criteria.

The reporting for the quality of electricity and services offered by the energy companies is used by SEWRC to adjust the revenue requirements, incl. based on benchmarking studies of the practices in other EU Member States.

### **General conclusions**

In relation to the electricity market development has been initiated a procedure for amendments to the Energy Law and the Rules for Trade in Electricity towards creation of a power exchange and balancing groups.

#### ***2.2.2. Key developments in the gas market***

By 31 December 2007 the Commission has issued a total of 158 licenses for natural gas distribution and supply operations. Four licenses have been withdrawn for non-compliance with the conditions specified in the issued licenses.

The activity of the Gas Transmission Network Operator “Bulgartransgas” EAD is legally and functionally unbundled and with separate book-keeping from the other activities of the vertically integrated company.

The Gas Transmission Network Operator ensures:

- the integrated management and reliable functioning of the natural gas transmission network;
- the transmission of natural gas through the natural gas transmission network and metering of the said gas;
- the maintenance of the works and facilities of the natural gas transmission network in accordance with the technical requirements and the safety at work requirements;
- expansion of the gas transmission network in accordance with the long-term forecasts and plans for development of the natural gas supply and beyond the framework of such plans, where economically justified;
- the maintenance and expansion of the auxiliary networks.

As regards the activity of the Gas Transmission Network Operator, being part of a vertically integrated company, effective mechanisms have been established to guarantee the

Operator's autonomy, whereby the persons responsible for the management, including day-to-day operational management of the natural gas transmission system:

- can not take part in the management of other companies in the vertically integrated undertaking engaged in extraction, distribution, public provision, public supply and trade in natural gas;
- make independent decisions when performing the duties assigned thereto;
- are obligated to exclude discriminatory conduct when performing the duties assigned thereto.

In this connection the Gas Transmission Network Operator prepares a compliance programme setting out the measures to meet the above mentioned objectives and containing specific obligations of the employees for meeting the said objectives. The Gas Transmission Network Operator prepares an annual report on the measures to meet the said objectives and submits it to the regulator.

"Bulgartransgas" EAD has been granted licenses for "transmission of natural gas through the gas transmission system", "natural gas transit transmission" and "natural gas storage" activities. "Bulgargas" EAD has been granted a license for "public provision of natural gas" activity.

In 2007 SEWRC has issued and modified licenses for natural gas distribution and for natural gas supply as Supplier of Last Resort to seven gas distribution companies.

Natural gas price at the point of entry of the gas transmission network is formed by the Public Provider "Bulgargas" EAD as average weighted value, taking into account the natural gas quantities ordered from import for delivery to the local market and the quantities intended for future sale from local extraction undertakings, the conditions specified under the contracts for transmission of natural gas to the Bulgarian border and the currency exchange rate of the Bulgarian National Bank for the Bulgarian lev to the US dollar or to another foreign currency to be paid for the imported natural gas. The three-month interval between the natural gas price changes is in line with the conditions set forth in the commercial agreements under which the Public Provider buys natural gas for the local market.

In 2007 SEWRC has approved natural gas distribution prices of four gas distribution companies.

The price paid for 1000 m<sup>3</sup> by consumers connected to the natural gas transmission network is equal to the price at the point of entry of the natural gas transmission network plus the transmission charge.

The prices paid by the final consumers connected to the natural gas distribution network are formed by adding the price for distribution and supply valid for the specific consumer group or sub-group to the sum of the natural gas price at the point of entry of the natural gas transmission network and the transmission charge.

With a view to provide the gas distribution companies with incentives to invest, SEWRC applies "price cap" method of regulation.

The natural gas supply within the national territory is carried out through a gas transmission network owned by "Bulgartransgas" EAD and through gas distribution networks owned by the respective natural gas distribution companies. In addition, a transit gas pipeline owned by "Bulgartransgas" EAD has been constructed on the country's territory. The said pipeline is used to transit natural gas to the territories of Greece, Macedonia and Turkey. The "public provision" activity is carried out by "Bulgargas" EAD. The natural gas at the point(s) of entry of the gas transmission system is supplied by three external suppliers and one local supplier.

Pursuant to the Rules for Granting Access to the Gas Transmission and/or Gas Distribution Networks, from 1 July 2007 all consumers have the right to choose their natural gas supplier.

### ***2.3. Major issues dealt with by the regulator***

#### ***2.3.1. Major issues dealt with by the regulator in 2007 in electricity sector***

The SEWRC has adopted amendments and supplementations to the acts listed below enabling full liberalization of the electricity market:

- Rules for Trade in Electricity;
- Rules on the Conditions and Procedure for Access to the Electricity Transmission and/or Electricity Distribution Networks;
- Rules of Operation of the Electric Power System;
- Rules of Operation of the Electricity Distribution Networks;
- Electricity Metering Rules.

The SEWRC's role in facilitating generation of electricity from renewable energy sources (RES) and cogeneration (CHP) is among the key objectives of the Energy Law and the Law on the Renewable and Alternative Energy Sources and Bio Fuels, in particular, towards sustainable development of the use of renewable energy sources, incl. RES generation of electricity. In this connection SEWRC is legally empowered to set preferential prices of the electricity from such producers.

Legal guarantees for promotion and use of renewable energy sources, alternative energy sources, bio fuels and other renewable fuels are explicitly provided for in the Law on the Renewable and Alternative Energy Sources and Bio Fuels promulgated in 2007.

At national level SEWRC creates conditions for facilitating the development of technologies for generation of electricity by RES generators, high-efficiency cogenerations, small HPPs and other alternative energy sources and bio fuels.

Pursuant to the Ordinance on Regulating the Prices of Electric Power, the preferential price of electricity generated utilizing renewable energy sources is defined as not lower than 80% of the average sale price of the Suppliers of Last Resort for the previous calendar year and a top-up amount determined by the Commission according to the following general criteria: type of technology, installed capacity, available resource of the primary energy source.

Pursuant to the Ordinance on Regulating the Prices of Electric Power, the preferential price of electricity produced by the CHP generation plants is set in line with guidelines adopted by SEWRC based on the individual costs of generation and a top-up amount by groups of producers according to the following criteria: prevalent nature of the key thermal load – technological needs or heating, air-conditioning and hot water supply, type of the used fuel, cogeneration technology, capacity of the generation plant/installation.

The Energy Law provides for mandatory purchase by the Public Provider and by the Suppliers of Last Resort of the electricity produced from renewable energy sources and by CHP generation plants.

#### ***2.3.2. Major issues dealt with by the regulator in 2007 in the natural gas sector***

One of the key tasks in the gas supply sector is the full market opening since 1 July 2007. In this connection SEWRC has amended and supplemented the following acts:

- Rules for Granting Access to the Gas Transmission and/or Gas Distribution Networks;
- Rules for Trade in Natural Gas.

In the course of the year SEWRC has performed control activity relative to the overall monitoring of the natural gas market, and the market participants on the said market in particular, including monitoring for compliance with the license conditions and for implementation of the companies' business plans.

### **3. Regulation and Performance of the Electricity Market**

#### **3.1. Regulatory Issues**

##### **3.1.1. General**

Since the second semester of 2007 26% of the annual demand in the country is traded at freely negotiated prices.

In line with the provisions of Directive 2003/54/EC of the European Parliament and of the Council of 26 June 2003 concerning common rules for the internal market in electricity, the Energy Law and the sub-legislative framework contain provisions governing the approach to the electricity market liberalization in the country, the commercial relations under liberalized electricity market conditions, as well as the manner in which electricity is traded at freely negotiated prices.

The electricity market model defined in the Energy Law is: bilateral contracts and a balancing market. The rules for trade in electricity at freely negotiated prices and the rules for organizing the balancing energy market operation are set forth in Rules for Trade in Electricity.

Pursuant to the Energy Law, SEWRC adopts Rules for Trade in Electricity and rules for operation of the networks upon proposal of the energy companies and is responsible for controlling the adherence thereto.

In relation to the future development of the electricity market SEWRC has initiated a procedure for consideration of new Rules for Trade in Electricity proposed by the ESO, jointly with branch organizations and other stakeholders concerned.

The new rules will include transactions on an organized market at the day preceding the delivery, rules for registration of balancing group coordinators, providers of auxiliary services and providers of balancing energy.

##### **3.1.2. Management and allocation of interconnection capacity and mechanisms to deal with congestion**

A monthly overall computing model used to define the net transmission capacities (NTC) on monthly basis is made for the region (No.8). The said capacities are coordinated bilaterally between the neighbouring System Operators. Based on the coordinated NTC are announced Public Auctions for capacities.

In 2007 were adopted Auction Rules defining the conditions for access to the transmission system and for cross-border electricity exchanges developed by the ESO (Transmission System Operator - TSO). The said rules have been reviewed by and coordinated with SEWRC.

The rules define the terms and conditions for allocation, via auctions, of the Offered Interconnection Capacity (OIC) in both directions through the interconnection lines. The interconnection transfer capability (capacity) is allocated by the Auction Operator in the form of trading rights of transfer (=commercial transfer rights – CTR).

The Auction Rules define the types of auctions, organizational arrangements of the auction procedure, criteria to be met by the users in order to participate in the auctions, award of CTR, conditions for access to Secondary CTR Market, buy-back arrangements and rules for use of interconnection capability (capacity). The said rules define in particular the allocation of annual, monthly, weekly and daily interconnection capabilities (capacities) in the direction from Bulgaria to a neighbouring country and from a neighbouring country to Bulgaria.

The ESO maintains an Internet site for the announced auctions. On this site are published the Auction Rules, along with all amendments thereto; notifications pursuant to the Auction Rules; the public holidays in Bulgaria for the calendar year 2007; the auction terms of reference; the uploaded notifications for CTR transfer or retrieval, with an indication as to whether they have been accepted or not by the ESO; the names, fax and telephone numbers, e-mails of the contact persons at the ESO; the planned outage periods, in respect of the 35 equivalent days permitted annually; the samples of the auction-related documents to be downloaded and completed by the users; the values of the Offered Interconnection Capacity through Bulgarian interconnection lines; the auction results (clearing price, the name of the CTR holder and the corresponding quantity of CTR awarded; the aggregated coordinated schedules for electricity exchange (Nominations); constraints resulting from planned outages or from events and circumstances unforeseeable in the long run; the dates of conducting annual and monthly auctions; the list of eligible registered users and any other information relative to the auctions.

Implementation of coordinated auctions for capacity between the operators in the region is forthcoming.

Congestions within the national network and along the interconnection lines have not been detected. Ongoing is the construction of a 400-kV interconnection line between Bulgaria and Macedonia aimed at enhancing the cross-border exchange capabilities.

### ***3.1.3. The regulation of the tasks of transmission and distribution companies***

In Bulgaria there is one electricity transmission company and four electricity distribution companies. The electric power system is operated by an “Electricity System Operator” (TSO). Each distribution network is operated by a distribution network operator (DSO).

The ESO and the network operators are independent within the integrated undertaking. The ESO is not owner of the network. The operators of the distribution networks are owners of the networks.

Total length of transmission lines: 14,557 km, incl.:

Overhead lines – 14,546 km

Cable lines – 11 km

Total length of distribution lines: 152,312.995 km, incl.:

Overhead lines – 114,640.86 km

Cable lines – 37,672.135 km

### **Network tariffs**

The prices for wheeling through electricity distribution networks are regulated using the “revenue cap” method. Prices are calculated based on annual revenue requirements approved by the Commission, which include administrative costs and general costs for implementing the licensed activity, expenses for purchasing electric power to cover the technological losses, as well as return on acquired own assets and on approved average annual net investments.

The approved revenues of the companies are adjusted annually during the regulatory period, based on adjusting administrative and general costs with average annual inflation for a prior period, reduced by an efficiency factor (X factor), the difference between the

estimated and actual electricity demand and the change in the average electricity purchase price, including that of electricity for technological losses. In addition, an adjustment is applied to reflect any non-fulfilment of adopted quality indicators.

The first regulatory period started after the privatization of the electricity distribution companies and its duration was three years – over the period 2005-2007. The approved rate of return on equity for the electricity distribution companies is 16%, before tax.

The approved revenue requirements have been adjusted twice over the first regulatory period:

the adjustment in 2006 has been based on the reported average annual inflation for the previous year, on the change in the average energy purchase price and on the difference between estimated and actual demand. In compliance with the regulatory framework announced before privatization, no adjustment has been applied for non-fulfilment of quality indicators, nor was applied a cost efficiency improvement factor;

the adjustment of approved revenues of the companies in 2007 has been based only on the change in the average energy purchase price.

The second regulatory period is 5 years, with 2008 being the first price year. The weighted average cost of capital (WACC) is 12 %, before tax.

The electricity quantities to cover technological losses of the electricity distribution companies have been reduced by 3%.

After restructuring the NEK and establishing the Electricity System Operator in 2007, the transmission tariffs have been subdivided into two components: an access tariff payable to the ESO as System Operator, and a transmission tariff payable to the NEK as Transmission Company. Since January 2007 the basis on which the tariff is paid changed too. In respect of consumers using electric power from the electricity network the 2007 tariffs are paid on the basis of metered quantities, and in respect of the traders – on the basis of planned export.

The network access tariff covers the following costs of the ESO: costs of purchasing “cold reserve” and “ancillary services”, and operational costs of the National Dispatch Centre (NDC).

The regulator has adopted a “Methodology for Reporting the Fulfilment of Target Indicators for Quality of Electricity and Quality of Service by the Distribution Companies and Suppliers of Last Resort”. This methodology settles the reporting requirements in respect of meeting the target indicators for the quality of electricity, the quality of service and the manner of adjustment of the revenue requirements of the energy companies for each price period within the regulatory period depending on the attained performance level.

With the methodology are determined:

- The voltage deviations and control thereof:

Upon voltage fluctuations within the network or parts thereof the regulator sets deadlines for bringing the voltage in conformity with the limits provided for in the Bulgarian State Standard BDS EN 50160/1999.

- Continuity of supply indicators:

Quality of electricity and quality of service indicators are a System Average Interruption Duration Index – SAIDI and a System Annual Interruption Frequency Index – SAIFI.

The reporting for the quality of electricity and services offered by the energy companies is used by SEWRC to adjust the revenue requirements, incl. for benchmarking of the practices in other EU Member States.

SEWRC determines indicators for quality of electricity and quality of service for each licensed activity and their annual target levels.

The indicators for the quality of electricity and the quality of service are elements of the issued licenses.

For the purposes of price regulation it is envisaged that the fulfilment of each one of the target indicators will be a measure for the overall performance of the licensed activity by the energy company.

In order to guarantee the consumers' interests it is envisaged that the Commission will adjust the revenue requirements of the energy company for each price period within the regulatory period depending on the fulfilment of the indicators for quality of electricity and quality of service during the previous year.

In the cases where for a given price period the average fulfilment of the indicators for quality of electricity and quality of service by the energy company does not reach the target values, the corresponding performance level is reflected in reduction of the revenue requirements for the next price period according to this methodology.

### **Balancing**

The existing Rules for Trade in Electricity set forth conditions for participation in the balancing energy market operation, the mechanisms of balancing the market participants and the methodology for setting the balancing energy prices. Subject to balancing are the trading participants who have a registered weekly delivery schedule, the trading participants who participate with offers and bids on the balancing energy market for the corresponding settlement period and the Public Provider in certain cases stated explicitly in the trading rules.

Sources of balancing energy are producers for whom no quotas for the regulated market have been set, the producers with whom the ESO has a contract for purchase of cold reserve and ancillary services, consumers, providers with whom the ESO has a contract for purchase of balancing energy, as well as imported energy.

The operator applies the settlement system for individual calculation of the deviations of the actually consumed or generated electric power from the contracted quantities for a given period. The settlement period for all transactions with electric power at freely negotiated prices, as well as for the balancing energy market, is 60 minutes and starts at a round hour.

The transactions with balancing energy for a period from the first till the last day of a calendar month, the first and the last day included, are deemed concluded on the last day of the calendar month. The operator prepares daily and summarized settlement statements and the respective attachments concerning the balancing energy transactions.

The daily settlement statements contain information about the corresponding calendar day presented as a sequence of settlement periods. The summarized settlement statements contain information about all days within the relevant period. The Operator forwards the summarized settlement statements to the trading participants and to the Public Provider within 3 working days after the last day of the relevant period.

The operator prepares, maintains and periodically publishes on its internet site general and specialized information about the balancing energy market operation and the transactions at freely negotiated prices. The commonly accessible information about the market operation includes: an up-to-date list of the trading participants; total quantity of electric power traded at freely negotiated prices by settlement periods daily, weekly, monthly and annually; balancing energy prices for past settlement periods.

The operator provides to each trading participant access to information relative to his participation on the market, such as: registered weekly delivery schedules; offers and bids

registered before the date for which they refer; instructions relative to activation of offers and bids of the trading participant; daily settlement statements.

### **3.1.4. Effective unbundling**

In Bulgaria there is one transmission company and four electricity distribution companies. For the electric power system there is one “Electricity System Operator” (ESO = TSO). For each distribution network there is one Network Operator (DSO). In terms of ownership, the network companies are not unbundled.

The transmission company is 100% state-owned.

Three of the electricity distribution companies have been privatized – 67% are owned by foreign energy companies and the remaining 33% are state-owned. One company is 100% privately owned and has less than 100.000 consumers.

In compliance with the European directive on the market liberalization, the operations of the transmission system operator and of the distribution system operators have been unbundled in legal and organizational terms from other operations of the integrated undertakings.

The ESO is an autonomous legal person holding a license for the “electricity system operation” activity.

The ESO ensures:

- secure, safe and efficient functioning of the electric power system;
- maintenance of balance between electricity generation and demand;
- implementation of coordinated operation of the national electric power system with the electric power systems of other countries in accordance with the international treaties;
- non-discriminatory access to electricity transmission in compliance with quality requirements;
- secure and efficient functioning of the auxiliary networks.

In pursuit of Directive 2003/54/EC of the European Parliament and of the Council of 26 June 2003 concerning common rules for the internal market in electricity, the ESO is part of the vertically integrated undertaking – the Public Provider, but its operation is independent, in legal and organizational terms and in making decisions relative to its functions entrusted by the law, from the other operations of the vertically integrated undertaking. Autonomy of the ESO is guaranteed, as the persons responsible for the management, including day-to-day operational management of the electric power system, etc.:

- can not take part in the management of other companies in the vertically integrated undertaking and in other companies engaged in production, distribution, public provision, public supply and trade in electricity;
- make independent decisions when performing the duties assigned thereto;
- are obligated to exclude discriminatory conduct when performing the duties assigned thereto.

In this connection ESO prepares a compliance programme setting out the measures to meet the above mentioned requirements and containing specific obligations of the employees. The ESO prepares an annual report on the measures to meet the said objectives and submits it to the regulator.

The ESO administers the transactions with electricity concluded at regulated and at freely negotiated prices and organizes a balancing energy market in line with Rules for Trade in Electricity adopted by the regulator.

The ESO regulates the allocation of electrical load of the electricity system between the power plants according to technical and economic criteria (Merit Order). When allocating the electrical load, the ESO ensures fulfilment of the concluded contracts which envisage mandatory buy-out of a part or of all electric power produced by the generators. When allocating the transfer capability of network elements, the ESO adheres to technical and economic rules for non-discriminatory access and fulfilment of the obligations for network security and public access to information. The ESO concludes transactions with the operators of neighbouring systems for mutual compensation of the impact of cross-border electric power flows.

The ESO and the distribution company are obligated to provide the network users with access to the transmission and distribution networks under conditions of non-discrimination. They may refuse to conclude a contract for access to the respective networks in the cases where the transfer capabilities of the networks are insufficient or there are no technical conditions for measuring the consumed quantities of electricity or whenever the reliable operation of the electric power system and/or the security of supply are disturbed.

The ESO has the right to impose penalties to the violators of the technical requirements for reliable operation of the electricity system agreed with the network users.

The distribution network operators are obligated to provide reliable, safe and efficient functioning of the respective distribution network, non-discriminatory access for wheeling of electric power while adhering to the quality requirements, as well as equality of the producers and consumers connected to the network.

Whenever the distribution network operator is part of a vertically integrated undertaking, it is independent in terms of its legal form, organization and decision-making process from the other operations not related to the electricity distribution. The aim of this requirement is to ensure non-discriminatory approach to the network and avoid conflicts of interest between the activity related to electricity distribution and operational management of the distribution networks (natural monopoly) and the activity related to electricity supply (competitive activity). The unbundling of the Distribution Network Operator from the other activities not related to the distribution comprises the following key elements:

- Legal unbundling – activities related to electricity distribution and operational management of the distribution networks are carried out by an autonomous legal person;
- Functional unbundling – ensures the independence of the Distribution Network Operator within the vertically integrated undertaking. Pursuant to Article 15 (2) of Directive 2003/54/EC, where the distribution system operator is part of a vertically integrated undertaking, it shall be independent in terms of its organisation and decision making from the other activities not related to distribution. In order to achieve this, the following minimum criteria shall apply:
  - those persons responsible for the management of the distribution system operator may not participate in company structures of the integrated electricity undertaking responsible, directly or indirectly, for the day-to-day operation of the generation, transmission or supply of electricity;
  - appropriate measures must be taken to ensure that the professional interests of the persons responsible for the management of the distribution system operator are taken into account in a manner that ensures that they are capable of acting independently;
  - the distribution system operator shall have effective decision-making rights, independent from the integrated electricity undertaking, with respect to assets necessary to operate, maintain or develop the network. It shall not be permitted that the parent company

gives instructions regarding day-to-day operations, nor with respect to individual decisions concerning the construction or upgrading of distribution lines.

- the distribution system operator shall establish a compliance programme, which sets out measures taken to ensure that discriminatory conduct is excluded, and ensure that observance of it is adequately monitored. The programme shall set out the specific obligations of employees to meet this objective. An annual report, setting out the measures taken, shall be submitted by the person or body responsible for monitoring the compliance programme to the regulatory authority and published.

Considering the above, the distribution companies have prepared and submitted a programme for compliance setting out the measures to ensure the independence of the distribution companies which contains specific obligations of the employees for meeting the said objective. The operator designates a person responsible for the control of the compliance programme, draws up an annual report concerning these measures and provides it to the Commission. As far as the programmes for compliance submitted by the distribution companies are concerned, the regulator reviews them on its sessions and prescribes instructions for supplementation of the programmes for compliance with a view to guarantee the companies' independence from the other activities of the vertically integrated undertaking.

## **3.2. Competition Issues**

### **3.2.1. Description of the wholesale market**

Since the second semester of 2007, 26% of the annual demand is traded at freely negotiated prices.

For the reference period (2007) the total number of licensed producers with installed capacity above 5 MW is 45. The total installed capacity in the country amounts to 11,215 MW. The maximum net generation capacity is 8,069 MW and the peak load in December 2007 is 6,888 MW. The annual net output for the country during the reference period is 39,106 TWh.

The total electricity generation potential of the country based on electricity generated in 2007 is structured as follows:

- Producers with coal as primary energy source – 51.6%;
- Producers with nuclear fuel as primary energy source – 33.9%;
- Hydro producers – 7.6%.
- Cogeneration fuelled by natural gas – 5.7%;
- Liquid fuels – 1.2%

The net electric power from commercial export for 2007 is 4.46 TWh. The country has interconnections with all neighbouring countries.

The number of licensed traders of electricity until December 2007 is 32, where for the period in question transactions for trade in electricity have been concluded by 11 commercial companies.

Long-term contracts for purchase of electric power and availability have been concluded between “Energy Company Maritsa East III” AD, “AES Maritsa East I” EOOD, “TPP Maritsa East 2” EAD and “NEK” EAD, and for cold reserve between “TPP Varna” EAD and “ESO” EAD.

The functioning of the cold reserve and ancillary services market is provided for in the Energy Law. The transactions for cold reserve and ancillary services are concluded by the ESO under the conditions of the Rules of Operation of the Electric Power System and of the

Rules for Trade in Electricity. The quantities of availability purchased for cold reserve are determined based on the level of reliability of the power supply set forth with an order of the Minister of Economy and Energy. Pursuant to the provisions of the Rules for Trade in Electricity, the producers conclude contracts for cold reserve and ancillary services with the operator at a regulated price for availability, while the net energy from activated cold reserve and provided ancillary services is paid by the Public Provider at the price specified in a contract between the Public Provider and the respective producer.

### **3.2.2. Description of the retail market**

The consumers connected to high voltage networks are supplied by the Public Provider at freely negotiated prices.

The total internal demand for 2007 is 38,663 TWh.

The total demand by final consumers for 2007 is 29,328 TWh.

The structure of demand and the annual electricity quantities are:

- industrial consumers and public sector – 19,947 TWh – 68% of the total demand in the country;
- residential consumers– 9,38 TWh. – 32% of the total demand in the country.

The procedure for change of supplier is described in the Access Rules and the Rules for Trade in Electricity.

In 2007 48.6% of the large industrial enterprises, 1.08% of the medium-sized industrial enterprises and 0% of the residential consumers have changed their supplier.

- Industrial consumers at high voltage (correspond to standard consumers with annual demand of 24,000 MWh and maximum load of 4,000 kW)

The price for industrial consumers connected to the electricity transmission network (high voltage) is not subject to approval by the SEWRC. Such consumers buy electricity on the competitive market. The price ranges from 0.0347 to 0.0358 EUR/kWh.

The price for access to the electricity transmission network is paid to the ESO by all network users and is 0.0026 EUR/kWh.

The price for wheeling through the electricity transmission network is paid to the Transmission Company by all network users and is equal to 0.00419 EUR/kWh.

- Industrial consumers at medium voltage (6-20 kV) with 50 MWh annual demand and 50 kW maximum load.

The price of electricity comprises the price for electricity of a Supplier of Last Resort, the price of wheeling through the distribution network and the price of access to the distribution network.

- Industrial consumers at low voltage with 50 MWh annual demand and 50 kW maximum load.

The price of electricity comprises the price for electricity of a Supplier of Last Resort, the price of wheeling through the distribution network and the price of access to the distribution network.

- Residential consumers connected at low voltage (0.4 kV) with 3,500 kWh annual demand.

The price of electricity comprises the price for electricity of a Supplier of Last Resort, the price of wheeling through the distribution network and the price of access to the distribution network.

	<b>Consumer groups</b>	<b>Price wheeling and access medium voltage EUR/kWh</b>	<b>Price wheeling and access low voltage EUR/kWh</b>	<b>Price for supply EUR/kWh</b>	<b>Total price EUR/kWh</b>
.	Industrial consumers at medium voltage, 50 MWh, 50 kW	0,00798		0,04032	0.04830
.	Industrial consumers at low voltage, 50 MWh, 50 kW		0,02633	0,04003	0.06636
.	Residential consumers, 3,500 kWh, 0.4 kV		0,02633	0.03378	0.06011

\* All prices are net of VAT (20%) and net of excise duty for industrial consumers

\* For 2008 the price of wheeling through and access to the distribution network is subdivided into a price for wheeling and a price for access.

Pursuant to the Energy Law, the Commission considers complaints by customers against licensees or by licensees against other licensees, related to performance of the licensed activity.

The procedure for submission of complaints, the consideration thereof and the procedure for amicable settlement of disputes are provided for in the Ordinance for licensing the activities in the energy sector. The complaints are considered in accordance with the existing Internal rules for customer service in relation to complaints and alerts filed with the Commission and for amicable settlement of disputes as per the Energy Law.

The complaints filed to the clerical department and registered into the incoming register of the regulator in 2007 for “Electricity” sector are 459.

Analysis of the complaints filed by residential consumers indicates the largest relative share of complaints related to errors in meter reading – 28.4%. The remaining complaints concern voltage fluctuations, connections, responses to complaints, interruptions, periods of meter reading, fulfilment of general conditions.

The regulator has been entrusted powers in relation to the administrative-penal provisions stipulated in the Energy Law.

### ***3.2.3. Measures to avoid abuses of dominance***

As per the Energy Law, key principle guiding the SEWRC in execution of its regulatory powers is preventing and precluding the limitation or distortion of competition on the energy market. In implementation of this principle, SEWRC may notify the Commission for the Protection of Competition to initiate proceedings as per the stipulations of the Protection of Competition Law. SEWRC's role is to create conditions preventing abuse of market power, while the Commission for the Protection of Competition is competent to take actions upon occurrence of such abuse. In order to ensure efficiency of actions aimed at preventing and precluding the limitation or distortion of competition on the energy market, SEWRC and the Commission for the Protection of Competition have established close relationships of collaboration. The Energy Law provides for multiple powers of the Commission, the exercising of which ensures availability of efficient monitoring mechanisms for the electricity and natural gas market with a view to disclosure of possible abuses of market power. SEWRC performs continuous market monitoring with a view to ensure non-discrimination among all market players and among the market players falling within the same category, along with efficient competition and correct market functioning. With regard to this, in execution of its control powers SEWRC undertakes planned checks of the energy companies, as well as extraordinary checks in relation to filed complaints and alerts.

With a view to execution of its regulatory powers, SEWRC operates in close collaboration with the Commission for the Protection of Competition and with series of other non-governmental organizations for consumer protection.

## **4. Regulation and Performance of the Natural Gas market**

In pursuance of the European directives on full liberalization of the electricity and gas markets and according to the Energy Law, since 1 July 2007 the natural gas market in the country is open to all consumers.

### **4.1. Regulatory Issues**

#### **4.1.1. General**

The natural gas supply within the national territory is carried out through a gas transmission line and then through gas distribution networks owned by the respective natural gas distribution companies licensed to perform “natural gas distribution” and “natural gas supply as a Supplier of Last Resort” activities.

##### ***Natural gas transmission:***

The natural gas supply is carried out by “Bulgargas” EAD to which SEWRC has issued a license for the “public provision of natural gas” activity. Licenses for the “natural gas transmission”, “natural gas transit” and “natural gas storage” activities have been issued to “Bulgartransgas” EAD. The natural gas at the point(s) of entry of the gas transmission system is supplied by three external suppliers (Overgas Inc., Wintershall and Gasexport) and one local supplier (Petreco SARL). The gas transmission network is owned by “Bulgartransgas” EAD and to its network are connected both gas distribution companies and about 235 directly connected consumers. In addition, within the country’s territory has been constructed a transit gas pipeline owned by “Bulgartransgas” EAD. Certain sections of the said pipeline are used to transit natural gas to the territories of Greece, Macedonia, Serbia and Turkey.

##### ***Natural gas distribution:***

The Public Provider “Bulgargas” EAD supplies natural gas to 40 natural gas distribution networks on the territory of 5 regions (Mizia, Dobrudzha, Trace, Danube and West) representing detached territories as defined in a Council of Ministers’ Inventory of the geographically limited areas for natural gas distribution, and 43 municipalities not included in the said Inventory. At the current stage of development of the gas supply in Bulgaria, the licensed natural gas distribution companies are 40 – they combine the activities relative to natural gas distribution and public supply because the number of final consumers connected to the natural gas distribution networks is less than 100,000.

With the amendment of the Rules for granting access to the gas transmission and/or gas distribution networks adopted with a decision of SEWRC from 14 May 2007, after 1 July 2007 all consumers are allowed to choose their natural gas supplier.

#### **4.1.2. Management and allocation of interconnection capacity and mechanisms to deal with congestion**

At the current stage of development of the natural gas market it is not necessary to develop mechanisms for handling network congestion, as the design-basis capacity of the transmission network is 8 billion cubic meters, whereas the actual annual demand does not exceed even 50% of the maximum admissible design-basis demand.

Bulgaria is a developing market, with one principal natural gas provider and a multitude of distribution companies holding licenses for natural gas distribution and public supply, issued by the national regulator and valid for geographically limited areas for natural gas distribution and municipalities. The natural gas transmission network operator has been restructured by unbundling the “public provision” activities (“Bulgargas” EAD), as well as the “natural gas transmission, transit transmission and storage” activities (“Bulgartransgas” EAD).

So far the natural gas market in Bulgaria is still strongly dependent, as more than 90% the natural gas in Bulgaria is supplied by the Russian company “Gasprom”.

The following activities along the chain have been horizontally unbundled: extraction, import, transmission, storage, distribution, supply and trade in natural gas. The market liberalization requires further unfolding of the opportunities provided for in the Energy Law, e.g. direct contracts between natural gas consumers and suppliers, be it traders, distribution companies or direct suppliers.

With a view to ensure full natural gas market liberalization, SEWRC has adopted Rules for Trade in Natural Gas.

For the reference period the natural gas quantity available in the gas transmission network is 3,446 million cubic meters, of which 3,113 million cubic meters are imported and 333 million cubic meters are extracted locally.

In respect of the gas transmission and transit system there is no congestion of the capacities at certain points of the network.

The “first come - first served” model is used for calculation of the available capacities.

In Bulgaria there is neither a functioning balancing market, nor a system for publishing the capacities.

#### ***4.1.3. The regulation of the tasks of transmission and distribution companies***

Pursuant to the Energy Law and the Ordinance on regulating the natural gas prices, the following prices are subject to regulation by the SEWRC:

- the price at which the Public Provider sells natural gas to the Suppliers of Last Resort;
- the prices at which the Suppliers of Last Resort sell natural gas to household customers and businesses with fewer than 50 employees and an annual turnover not exceeding BGN 19.5 million;
- the prices at which natural gas is transported through the respective transmission and distribution networks.
- the prices for connection to the gas transmission or gas distribution networks.

In conformity with the existing legislation and in line with the best practice in the field of regulation of the licensed companies have been defined basic principles and approaches for carrying out economic regulation. They are of critical importance and provide the most general guidelines for development of the gas sector companies.

The key guidelines for economic regulation take into account the actual state of the companies in the gas sector, the need of creating conditions for building gas distribution networks for the purpose of developing the gasification in the country and expanding the natural gas market.

Natural gas price at the point of entry of the gas transmission network is formed by the Public Provider as average weighted value, taking into account the natural gas quantities ordered from import for delivery to the local market and the quantities intended for future sale from local extraction undertakings, the conditions specified in the contracts for transmission

of natural gas to the Bulgarian border and the currency exchange rate of the Bulgarian National Bank for the Bulgarian lev to the US dollar or to another foreign currency to be paid for the imported natural gas. A 3% surplus change is accrued on this price.

According to existing commercial agreements of “Bulgargas” EAD with foreign suppliers, the natural gas price at the point of entry changes every quarter, i.e. four times a year.

The prices paid by the final consumers connected to the natural gas distribution network are formed by adding the price for distribution and supply valid for the specific consumer group or sub-group to the sum of the natural gas price at the point of entry of the natural gas transmission network and the transmission charge.

The price paid for 1000 m<sup>3</sup> by consumers connected to the natural gas transmission network is equal to the price at the point of entry of the natural gas transmission network plus the transmission charge (BGN 19.73).

The price for transmission through the natural gas transmission network is set according to the “rate of return on capital” method (“cost plus”). This method is applied in the cases where the aim is to prevent the energy company from abusing its monopolistic position and earning excessive return on its assets.

After amending the Ordinance on regulating the prices of natural gas in 2007, the prices for natural gas distribution and supply as a Supplier of Last Resort through the gas distribution network are regulated according to the “price cap” method.

Furthermore, the Commission may adjust the approved prices at the end of each year of the regulatory period based on the revenues earned or not earned due to differences between forecast and actual quantities of natural gas for the previous price period, and based on investments.

The price for connecting consumers to the gas distribution networks of the gas distribution companies is determined per one connection by consumers groups (industrial, public-administrative and commercial, and residential consumers), taking into account the quantity of the maximum hourly demand stated by the consumers requesting connection. It is admissible to set the price per consumer within the relevant group for a given regulatory period, by assuming an average price based on estimated number of consumers and number of connections for the period in question. The prices for connecting consumers to the gas distribution networks include the eligible (approved) expense categories (costs of labour and hired services) of the gas distribution companies for building the gas supply extensions to the consumers. Expenses which have been included in the statements for formation of the price for transmission of natural gas through the gas distribution networks and supply are not included in the expenses forming the connection price.

#### Average weighted prices of natural gas for 2007 (EUR/GJ)

Energy	III quarter		IV quarter	
	Price net of VAT	End price	Price net of VAT	End price
<b>Natural gas</b>				
1. Wholesale price	6.76	8.11	6.79	8.15
2. Retail price	6.82	8.18	7.00	8.41
3. Residential consumers	11.12	13.34	11.14	13.37
4. Non-residential consumers	6.81	8.17	6.92	8.31
<b>Additional information</b>	<b>I quarter</b>		<b>II quarter</b>	
VAT, %	20%		20%	

Average calorific value of the natural gas (MJ/m <sup>3</sup> ) <sup>4</sup>	33.29	33.29
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**End price:** price with all charges included (VAT included)

<sup>3</sup> at the end of the quarter

<sup>4</sup> rounded to the lower value, up to 2 decimal points after the decimal point

### ***Balancing***

The balancing on the natural gas market is carried out using the natural gas available in the system which is purchased at regulated prices from the Public Provider. To compensate for the seasonal unevenness of the demand are used the possibilities for extraction and pressurization of natural gas at the underground natural gas storage facility “Chiren”, where the gas is owned by persons other than the operator, and in accordance with the contractual conditions.

#### ***4.1.4. Effective Unbundling***

Each gas distribution company is obligated to maintain separate accounts for the types of operations carried out by the company, pursuant to the provisions set forth in the Energy Law. A Uniform chart of accounts (USOA) has been adopted for the purposes of unbundled accounting by types of operations carried out by the gas distribution companies.

As far as the regulatory mechanism is concerned, the adopted approach uses calculation of the costs by operations – distribution, supply and non-regulated operations. Subject to regulation by the State Energy and Water Regulatory Commission are just the operations related to natural gas distribution and supply.

Each of these operations has specific features which allow, among other things, separate book-keeping. This enables their monitoring, measuring and control, through the mechanisms of entry into the accounts for regulatory purposes. The consolidation of regulated operations enables thorough coverage of the entire process and its management in line with the pursued national energy policy.

Unbundling, in legal and organizational terms, of the activities related to natural gas distribution from the natural gas supply to final consumers and from the other operations of the gas distribution companies will be justified when the number of final consumers connected to the relevant gas distribution network is not less than 100 thousand.

With a decision of SEWRC has been authorized a transformation of “Bulgargas” EAD through spinning-off into “Bulgargas” EAD and “Bulgartransgas” EAD as autonomous business entities. Thus the operations related to natural gas transmission are unbundled in legal, functional and accounting terms, from the operations related to public provision of natural gas. Furthermore, the transformation is in line with the key objectives of the EU Directive 2003/55, in particular, the accomplishment of a fully operational internal market with non-discriminatory access to the gas transmission networks and fair setting of the natural gas prices.

## **4.2. Competition Issues**

### **4.2.1. Description of the wholesale market**

The total natural gas demand in the country for 2007 is 3,408 million cubic meters. The market share of “Bulgargas” EAD (Public Provider) is 98.74% and of the natural gas trader “Dexia” OOD is 1.26%.

The natural gas quantity available in the gas transmission network for the reference period is 3,446 million cubic meters, of which 3,113 million cubic meters are imported and 333 million cubic meters are extracted locally.

In terms of sectors, the market structure for the country in 2007 is as follows:

- Energy sector – 996 million cubic meters, or 29.2%
- Chemical industry – 1 113 million cubic meters, or 32.6%
- Other industries – 937 million cubic meters, or 27.5%
- Distribution companies – 362 million cubic meters, or 10.6% of the total demand.

The natural gas demand figures for 2007 show downward tendencies for the demand by the chemical industry and by the district heating companies – the key consumers in the Republic of Bulgaria.

### **4.2.2. Description of the retail market**

In conformity with the existing legislation and in line with the best practice in the field of regulation of the licensed companies have been defined basic principles and approaches for carrying out economic regulation. They are of critical importance and provide the most general guidelines for development of the companies.

The key guidelines for economic regulation take into account the actual state of the companies in the gas sector, the need of creating conditions for building gas distribution networks for the purpose of developing the gasification in the country and expanding the natural gas market.

The shares of the individual consumer groups serviced by the gas distribution companies are as follows:

- Industrial consumers – 73.5%, or 1,235 consumers;
- Public-administrative and commercial consumers – 16.4%, or 2,758 consumers
- Residential consumers – 10.3%, or 35,027 consumers.

Recently there has been a growing tendency in the natural gas demand by the gas distribution companies which results in certain stabilization of the market. This is a consequence of the existing regulatory framework applied by the SEWRC. This definitely increases the investors’ interest in natural gas market development.

The checks of the licensed companies conducted in 2007 are in line with the legal and sub-legislative acts and the Statutes of the SEWRC and its administration.

During the conducted planned checks has been made the conclusion that the companies are putting many efforts for improving the quality of services offered, as well as for faster resolution of customer complaints.

The SEWRC requires annual information about complaints filed to the gas distribution companies.

The number of complaints per 1,000 consumers received at the gas supply companies is insignificant – 0.048. The complaints in the sector basically concern delayed connections to

the gas distribution networks of residential consumers. Another group of complaints concerns the meters of certain clients.

## 5 Security of Supply

### 5.1. Electricity

For 2007 the total demand by final consumers in the country, including technological transmission and distribution losses, is 34,019 TWh. Compared to previous periods, there is a tendency of increase in the demand by approx. 5 %.

The total installed capacity in the country for the reference period is 11,215 MW.

The peak load in December 2007 is 6,888 MW.

The available capacity in the country for the reference period is 8,737 MW.

The maximum net generation capacity is 8,069 MW.

Pursuant to the Energy Law, the Minister of Economy and Energy identifies the need of construction of new generating capacities and approves an inventory on the basis of the overall forecast energy balances; the mandatory parameters concerning the level of reliability of electricity supply and the plan prepared by the Electricity System Operator for development of new generating capacities at minimum costs to the public. The overall forecast energy balances are short-term, medium-term and long-term. The said balances are prepared on the basis of forecasts, studies and plans of enterprises engaged in the activities comprehended in extraction, processing, conversion, transmission and distribution of energy resources and energy; information from the overall indicative energy balances; and information provided by the National Institute of Statistics.

The Minister of Economy and Energy carries out monitoring over the security of supply and publishes the measures planned and taken, the results of the monitoring and the energy policy guidelines on the Internet site of the Ministry of Economy and Energy.

By virtue of the stipulations in the law, the ESO concludes transactions for ancillary services and cold reserve for the purpose of ensuring the secure operation of the electric power system. The cold reserve is procured through availability purchase transactions in quantities determined on the basis of the level of reliability of electricity supply as defined in an order of the Minister of Economy and Energy.

For 2007 the cold reserve is 1,257 MW.

For 2007 the shares of various types of generation, incl. co-generations and RES, are shown in the table below:

2007	Installed capacity MW	Available capacity MW	Additional delivery MW	Max. capacity MW	Share	Net annual output MWh
NPP	2,000	2,070	180	1,890	23.4%	13,692,644
Condensation Cycle Plants	4,410	3,870	230	3,640	45.0%	16,884,800
<i>Total Condensation Cycle Plants</i>	<i>6,410</i>	<i>5,940</i>	<i>410</i>	<i>5,530</i>	<i>68.5%</i>	<i>30,577,444</i>
Cogeneration (solid fuel)	944	530	101	429	5.30%	
Cogeneration (gas)	582	324	87	237	3.00%	
Cogeneration (liquid fuel)	269	143	20	123	1.50%	
<i>Total Cogeneration</i>	<i>1,795</i>	<i>997</i>	<i>208</i>	<i>789</i>	<i>9.80%</i>	<i>5,275,800</i>
RES + Hydro	3,010	1,800	50	1,750	21.7%	2,799,500

The Republic of Bulgaria's interconnections with the neighbouring countries – Greece, Romania, Macedonia, Turkey and Serbia – provide the conditions necessary for operation of an electricity market based on bilateral contracts, including mutual aid upon emergency. The forthcoming completion of the construction of the additional 400-kW interconnection with Macedonia will ensure the exchange capacity between the two countries needed for expanding the market opportunities. The current electricity generation which was strongly limited after stopping Blocks 3 and 4 of the NPP “Kozloduy” reduces the export opportunities of the Bulgarian electricity system and affects negatively the security of supplies in the region. This situation will remain over the coming 4 – 6 years until commissioning of the new capacities “AES Maritsa East 1” – 600 MW and Block 1 – 1,000 MW of the NPP “Belene”.

There are plans for construction of new substations and power lines at high and medium voltage to meet the forthcoming needs resulting from intensive construction in certain regions of the country and building of new RES plants.

SEWRC has adopted a “Methodology for Reporting the Fulfilment of Target Indicators for Quality of Electricity and Quality of Service by the Distribution Companies and Suppliers of Last Resort”. This methodology settles the reporting requirements in respect of fulfilment of target indicators for quality of electricity and quality of service, and the manner of adjusting the revenue requirements of the energy companies for each price period within the regulatory period depending on the attained performance level.

The quality of electricity and quality of service indicators comprise a System Average Interruption Duration Index – SAIDI, a System Annual Interruption Frequency Index – SAIFI, and quality of service criteria.

The reporting for the quality of electricity and services offered by the energy companies is used by SEWRC to adjust the revenue requirements, incl. upon benchmarking studies of the practices in other EU Member States.

## 5.2. Natural Gas

The security of supply issue is addressed by the Energy Law. The law stipulates that the Minister of Economy and Energy carries out monitoring of the security of supply and

publishes the measures planned and taken, along with the results of the monitoring in the bulletin on the status and development of the energy sector issued annually, as well as on the Internet site of the Ministry of Economy and Energy.

The law has defined explicitly the term “monitoring of security of supply” in line with the definition in Directive 2003/55/EC. Pursuant to the Supplementary Provisions, “Monitoring of security of supply” is the balance between supply and demand of electricity and natural gas on the national market, the level of expected future demand and envisaged additional capacity being planned or under construction, and the quality and level of maintenance of the networks, as well as measures to cover peak demand and to deal with shortfalls of one or more providers, suppliers or traders.

The law stipulates that the centralized operational management, coordination and control of the mode of operation of the natural gas transmission network are performed by the transmission network operator, and the operational management of each distribution network is performed by a distribution network operator. The orders of the natural gas transmission network operator are mandatory for the natural gas distribution network operators, the customers, the natural gas extraction companies and the natural gas storage operators connected to the transmission network, and for the other companies (in the vertically integrated undertaking, in cases where the combined operator is part of a vertically integrated undertaking).

The natural gas transmission network operator is a specialized unit within the structure of the transmission company. The natural gas distribution network operators are specialized units within the structure of the distribution companies.

The requirement set forth by the directive with regard to the operators’ independence is observed within the national context, as the natural gas transmission operator “Bulgartransgas” EAD is an independent legal entity within the vertically integrated undertaking “Bulgargas Holding” EAD. As far as the natural gas distribution level is concerned, Bulgaria has taken advantage of the existing legal opportunity provided by Directive 2003/55/EC for derogation from the requirement for legal unbundling in respect of undertakings with less than 100 000 consumers.

Strategic gas projects aimed at guaranteeing the security and continuity of the natural gas supplies for Bulgaria, the SEE region and EU are included in the list of projects which will be in the focus of attention of the Bulgarian side:

At national level:

Expansion of the gas transmission network within the territory of the country, expansion of the existing gas storage “Chiren” and building of new gas storage facilities;

Accelerated development of the gas distribution networks and gasification of households in the country.

At bilateral and multilateral level:

Implementation of the gas project announced as top priority for the EU – the gas pipeline NABUCCO for natural gas transmission from Caspian region, Near East and North Africa to the SEE region and EU.

Implementation of a strategic project for construction of a South Stream gas pipeline – from Russia through the Black Sea to the Bulgarian coasts. Considered are two options for a pipeline from Bulgaria – “south” and “north”, respectively to Italy and Austria;

Construction of a gas interconnection line connecting Bulgaria to the Turkey-Greece pipeline;

Project for construction of a regional (for SEE) re-gasification terminal for LPG either at the Black Sea coast, or on the Greek coast of Aegean Sea, depending on the outcomes of the pre-feasibility study.;

Constructing a gas pipeline from Bulgaria to Serbia (Dupnitsa – Dimitrovgrad – Nish or Sofia – Dimitrovgrad – Nish) for natural gas deliveries to Serbia, as well as to other Western Balkan countries;

Project for the so-called Trans-Atlantic gas pipeline from Bulgaria through Macedonia and Albania along the Adriatic Sea bed to Italy. This project is part of the development of the energy infrastructure of European Corridor No. 8;

Project for construction of an interconnection between the Romanian and Bulgarian gas transmission systems aiming to ensure security and diversification of deliveries.

SEWRC has adopted natural gas supply quality indicators, which define the key requirements and rules for ensuring security of deliveries:

- Natural Gas Quality Indicators and Standards (target levels);
- Continuity of the Natural Gas Supply;
- Commercial Services Quality.

The licensee is obligated to continuously report and analyze all natural gas supply interruptions (planned and unplanned).

Every year the licensee prepares and submits to SEWRC an annual report including detailed information about all supply interruptions of the consumers.

Planned interruptions with duration longer than the period announced by the licensee as minimum needed duration of intervention and/or longer than the announced duration are regarded as unforeseen interruptions.

The licensee may interrupt the natural gas supply in line with the requirements of the Ordinance concerning the restricting mode, temporary interruption or limitation of output or supply of natural gas provided for in the Energy Law in the following cases:

- Introducing a restrictive mode for a period longer than 48 hours;
- Temporary interruption or limitation because of planned outages, commissioning of new facilities, routine switchovers or connections, post-emergency repairs.
- Indicators for continuity of supply of the consumers:

System Average Interruption Frequency Index - SAIFI = **Total number of interruptions / Total number of connected consumers**

System Average Interruption Duration Index - SAIDI = **Total duration of interruptions / Total number of connected consumers**

Customer Average Interruption Frequency Index - CAIFI = **Total number of interruptions / Total number of consumers with interrupted supply**

Customer Average Interruption Duration Index - CAIDI = **Total duration of interruptions / Total number of interruptions or**

**CAIDI 1 = Total duration of interruptions / Total number of consumers with interrupted supply**

The second indicator represents the average time for restoration of supply of a given consumer with interrupted supply for a given period of time.

Another important instrument related directly to the security of supplies is the quality of commercial services and the handling of consumers' complaints.

#### **Performance indicators relative to commercial services quality**

	<b>Performance indicator</b>	<b>Measurement</b> for the indicator	<b>Initial value</b>	<b>Target value</b>
<b>1</b>	Written response to written complaints and inquiries filed by consumers	Average number of days for responding to complaints and inquiries filed by consumers	30 days	10 days

<b>2</b>	Duration of supply interruptions	Average time (per annum), during which each individual consumer has been switched off because of breakdown in the gas distribution network	minutes / consumer	<1
<b>3</b>	New connection applications	Average time for responding to applications filed within one year	20 days	10 days
<b>4</b>	New connections	Average time for connection	60 days	30
<b>5</b>	Checking bills relative to customer complaints	Average number of days for taking actions and finding a solution satisfactory for the consumer	days / consumer	7
<b>6</b>	Correcting meter reading errors	Average number of days for taking actions and finding a solution satisfactory for the consumer	days	7
<b>7</b>	Checking of commercial metering devices upon customer request	Average number of days for taking actions and finding a solution satisfactory for the consumer	days	15
<b>8</b>	Pressure level	Average time beyond the standard pressure range	time beyond the standard pressure range	-
<b>9</b>	Natural gas moisture content	Average time over the preset moisture content level	time over the preset moisture content level	0
<b>10</b>	Natural gas odourisation	Average time of deviation in the preset odourisation level	time below the preset odourisation level	check every 14 days

## **6. Public Service Issues**

### **6.1. Electricity**

Pursuant to the Energy Law, the energy companies are obligated to perform the operation thereof in the interest of the public and of the individual customers, ensuring the security of supply, uninterrupted supply and quality of electricity, efficient use of fuels and energy, protection of the environment, the life, health and property of citizens.

The Minister of Economy and Energy may impose additional public service obligations on energy companies, where such obligations are related to: continuity of supply of electricity and natural gas, and environmental protection – in coordination with the Minister of Environment and Waters.

It is envisaged that any supplementary costs incurred by the energy companies in relation to public service obligations will be allowed as expenses resulting from imposed obligations, including those related to the security of supply, environment protection and energy efficiency. SEWRC approves the following costs of the licensed energy companies related to public service obligations:

- resulting from an obligation to purchase electricity from producers which have won a tendering procedure for construction of a new electricity generating capacity;
- resulting from an obligation to generate electricity using local primary energy sources;
- resulting from an obligation to purchase electricity at preferential prices from co-generation and RES plants;
- other additional obligations imposed by an order of the Minister of Economy and Energy.

One of the key powers of the Commission for regulation of activities related to electricity supply and distribution for the regulated market is to approve General Conditions of the Contracts of the Suppliers of Last Resort and of the electricity distribution companies. The Suppliers of Last Resort sell electricity at regulated prices to household customers and small businesses with fewer than 50 employees and an annual turnover not exceeding BGN 19.5 million (EUR 10,000). The general conditions must contain: information to be provided by the supplier; term of validity of the contract; conditions for disconnection or interruption of supply; liability of the energy company upon failure to fulfil the general conditions. According to the Energy Law, the electricity supplier of last resort has an obligation to publish the general conditions and to carry out a discussion procedure.

Customers who disagree with the said conditions have the right to submit a statement to the relevant electricity Supplier of Last Resort, proposing thereby special conditions. Any special conditions departing from the general conditions as published, which are accepted by the electricity Supplier of Last Resort, are entered in supplemental written agreements.

### **6.2. Natural gas**

Companies operating in the natural gas sector are obligated to perform the operation thereof in the interest of the public and of the individual customers, ensuring the security of supply, an uninterrupted supply and quality of natural gas, efficient use of fuels and energy, protection of the environment, the life, health and property of citizens.

The Energy Law envisages that the Supplier of Last Resort sells natural gas under publicly known general conditions, which must contain:

- conditions for the quality of supply;
- information to be provided by the supplier;
- term of validity of the contract;
- liability of the energy company upon failure to fulfil the general conditions.

The customers of the Supplier of Last Resort conclude a contract with the distribution company for the transmission through distribution networks of the natural gas consumed thereby under publicly known general conditions. The general conditions must contain:

- conditions for quality of supply;
- conditions for termination or interruption of supply;
- liability of the energy company in the event of unwarranted interruption or poor quality of supply.

The general conditions of the contracts are published, as a must, in at least one national and one local daily newspaper.

Pursuant to the Energy Law, the Commission considers complaints by customers against licensees or by licensees against other licensees, related to performance of the licensed activity. The procedure for submission of complaints, the consideration thereof and the procedure for amicable settlement of disputes are provided for in the Ordinance for licensing the activities in the energy sector. The complaints are considered in accordance with the existing Internal rules for customer service in relation to complaints and alerts filed with the Commission and for amicable settlement of disputes concerning:

- the right of the consumer to be connected in order to be supplied with natural gas;
- the right of the licensee to disconnect the supplier and terminate the supply of natural gas to the customer;
- the conditions of supply and quality standards offered by the licensee to the consumers.

A positive solution ensuring improved quality and efficiency upon resolution of disputes is the introduction of a non-judiciary institution for amicable settlement of disputes aiming to avoid the expensive judiciary proceedings and reduce the timelines for resolving the issues that occur.