
THE ENERGY
REGULATION
AND MARKETS
REVIEW

EDITOR
DAVID L SCHWARTZ

LAW BUSINESS RESEARCH

THE ENERGY REGULATION AND MARKETS REVIEW

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Adam Sargent

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EDITOR'S PREFACE

Safe and reliable delivery of electricity and natural gas has been the hallmark of energy policy and regulation in the industrialised world for the past 75 years. More recently, regulators, policymakers and the industry began to focus their attention on ways to improve economic efficiency, increase productivity and reduce costs through a seemingly endless series of reforms.

In some countries, utilities were encouraged to enhance transmission and interconnection facilities with neighbouring systems in order to pool energy resources. More recently, utilities have been encouraged to participate in regional organisations to buy and sell power, and to administer transmission, dispatch and scheduling of a variety of energy products. Certain countries have encouraged utility efficiency through a variety of performance-based incentives.

Policymakers have tried to reduce the barriers to entry by requiring non-discriminatory treatment among transmission users, and prohibiting affiliate abuse. Utilities were encouraged to unbundle certain utility services; in some cases, regulators required the divestiture of generation or transmission facilities. Utilities have even been encouraged to provide retail wheeling services to facilitate competition for delivery service customers.

Many markets have developed competitive bid-based electricity auctions to set energy and capacity prices, which often take into consideration the cost of transmission congestion. These markets tend to be administered by independent or governmental entities that do not have a market position bias. Clearing prices set in these markets are intended to send price signals to maximise short-term efficiency (scheduling, dispatching and selling energy), as well as long-term efficiency (building new or retiring old generation and transmission facilities).

In certain countries, lawmakers and policymakers have encouraged developers to build and finance new renewable resources and to develop more effective means of conserving energy, through a variety of 'carrots' and 'sticks'. These measures have included subsidies such as feed-in tariffs and renewable energy credits, as well as utility

requirements through renewable portfolio standards. In certain competitive markets, conserving electricity has been converted into a demand-side product ('negawatts') with near or equal value to supply-side generation (megawatts). New 'smartgrid' technologies have been created to increase the efficiency of transmission, generation, distribution and individual consumers' energy use.

Now, however, the myriad of efficiency mechanisms faces new and unprecedented challenges. Transmission and distribution systems are ageing and desperately need upgrading. Severe new environmental requirements are leading to mass retirements of baseload coal-generation resources. Fuel prices are volatile, adding long-term uncertainty to energy prices. Spikes in the price of raw materials are making the development of new infrastructure all the more expensive. Cyber-security threats are exposing the vulnerabilities of our energy networks. And the global economy continues to threaten our ability to obtain the necessary credit to build and finance energy infrastructure.

This is the sobering backdrop for this inaugural edition of *The Energy Regulation and Markets Review*. I would like to thank all of the authors for their thoughtful consideration of these difficult challenges. As can be seen in these chapters, we have much to consider and resolve before we can achieve the kinds of energy security and efficiency that we have been pursuing.

David L Schwartz

Latham & Watkins LLP

Washington, DC

June 2012

Chapter 4

BULGARIA

Yassen Spassov¹

I OVERVIEW

Over the past decade, a number of reforms have occurred in the continuously maturing Bulgarian electricity market. Changes to the electricity industry primarily purport to avail the market of the benefits of competition and protect the interests of customers. The process of restructuring the electricity market in Bulgaria, however, falls behind the pace of European liberalisation. Furthermore, the socioeconomic conditions for competition are not yet observed in practice. The electricity market remains relatively concentrated as it has been vertically reintegrated among a few stakeholders after the initial privatisation and divestment of the former state-owned industry.

i The early restructuring of the Bulgarian electricity sector

In the late 1990s, all sectors of the electricity industry (generation, transmission and supply) were still owned and controlled by the state. The government decided to abandon the centrally managed model in the electricity sector in 1999, at which point the ‘single-buyer’ model was chosen as the most appropriate market structure to use in the initial stages of transition. This was also an elective model under Directive 96/92/EC, which was wisely seen as a precondition for EU membership at that time.

The National Electricity Company AD (‘the NEC’) was nominated to act as the single buyer, and newly emerging independent power generators had to sell their output to NEC; they could not sell directly to customers or supply companies as the NEC was fully in charge of the centralised purchasing and selling. The NEC further incorporated other activities such as transmission, distribution, supply, import and export of electricity, thereby shaping a complete monopoly on the electricity market. Soon after the model’s introduction, it was clear that generation capacity exceeded demand. The presence of

1 Yassen Spassov is an associate at Djingov, Gouginski, Kyutchukov & Velichkov.

excess capacity rendered the model inappropriate for the ‘market’ conditions in Bulgaria, as this model is generally most effective in the diametrically opposite scenario. In addition, the implementation of the single-buyer model was not by the book since no effective restructuring of the market took place at that time (i.e., the design of trading arrangements was delayed). These shortcomings and the transitional nature of the single-buyer model prompted a swift move away from the original structure of the market to the current one.

ii Privatisation and unbundling

Privatisation was the next step. Most entities operating within the various sectors of the electricity industry remained state-owned. Insofar as competition was unlikely to grow in such environment, divestment of energy assets from the state monopoly NEC became imperative. The privatisation of the energy sector was initiated in 2000 when ownership of 11 small hydropower plants changed hands. As a result of lifting ownership restrictions, most market participants have quickly become privately owned.

The privatisation of distribution companies was complete by 2004. Ownership of the transmission grid, however, remained with the state. It is only the management of the electricity system that has been functionally and legally separated from the NEC in a newly established entity, the Electricity System Operator EAD (‘the ESO’). At the same time, the privatisation and unbundling of distribution operators and supply companies took place. The state initially divested only a majority shareholding interest in distribution and supply companies and it remained a minority shareholder. As a result, three major licensed distribution companies were created serving separate regions of the country. The approach was standard. Insofar as distribution networks are naturally monopolistic, they still had to be separated at privatisation stage from other competitive activities, such as retailing. These formerly state-managed components of the electricity supply industry were privatised and unbundled as completely separate lines of business, albeit into three major vertically integrated undertakings: CEZ, E.ON and EVN.

In the course of restructuring, the state also decided to consolidate some of its remaining assets into a vertically integrated undertaking – the Bulgarian Energy Holding AD (‘the BEH’), which continues to be solely owned by the Ministry of the Energy, Economy and Tourism. The BEH was incorporated in September 2008, bringing together the two largest power generators (Kozloduy NPP and Maritsa East II TPP), the NEC (now operating as a public supplier, owner of the transmission grid and electricity trader), the ESO (now operating the transmission and distribution grids), a coal mining company, the combined gas operator (Bulgartransgaz) and public gas supplier (Bulgargaz).

Whereas the major restructuring and privatisation stage has been largely completed, ongoing transformation may still take place as Bulgaria is striving to adhere to the requirements of European liberalisation. Notwithstanding the record of past privatisation, key players remain under state ownership, such as the electricity system operator (the ESO), a public provider and owner of the transmission grid (the NEC), Kozloduy NPP and Maritsa East II TPP.

iii The evolving legal framework

The Energy Act 2003 was adopted at a fairly early stage of the restructuring of the energy sector, and it sets out the legal foundation upon which the power, gas and heating industries are currently all based. The statute lays down the general principles, rules and institutional powers within the energy sector. To a great extent, it is perceived as the overarching energy statute in Bulgaria, although recently the Energy from Renewable Sources Act 2011 became the second most important regulatory grounds of the electricity sector.²

Secondary sources such as regulations, guidelines and decisions govern the details of price regulation, licensing, interconnection to the grid and other matters. For example, the State Energy and Water Regulatory Commission ('the SEWRC') is empowered to pass rules on the management of the electricity system and distribution grids, trading arrangements and safety standards. The SEWRC acts as a specialist supervisory and enforcement authority in the power, gas and heating industry.

Alongside European legislation, the above statutes outline the legal framework on electricity regulation in Bulgaria. The Energy Act 2003, however, falls short of reflecting the latest EU requirements insofar as the Electricity Directive 2009/72/EC has, at the time of writing, not yet been transposed into national law.³

II REGULATION IN THE ENERGY SECTOR

i Regulatory institutions

At the very inception of the reforms, public interest demanded a specialist regulatory authority capable of protecting electricity customers; this had to be done against a backdrop of investment in additional capacity, energy infrastructure and maintenance. Policymakers struggled with the predicament to guarantee the independence of such authority from corporate and other interests in the sector. The SEWRC was vested with regulatory powers in the energy and water industries. It was established in September 1999, prior to the initial wave of reforms, and quickly underwent some refinement of the initial statutory basis of its existence.⁴

2 It should be noted that the Energy from Renewable Sources Act 2011 that is currently in force repealed its predecessor, the Renewable and Alternative Energy Sources and Biofuels Act 2007, which actually gave the strongest impetus to the renewable industry in Bulgaria.

3 The deadline for transposition was 3 March 2011. The amendment implementing the Community provisions is currently pending before Bulgarian Parliament. As a preliminary note, Bulgaria has elected to adopt the third model under Directive 2009/72/EC, the independent transmission operator ('ITO') model, according to which transmission system operators (TSOs) are allowed to remain part of integrated undertakings, provided they comply with detailed rules on autonomy, independence and investment.

4 Please note that the Minister of the Economy, Energy and Tourism also has certain powers in the energy sector, such as legislative competence (i.e., passing secondary legislation), planning, tendering new capacity, monitoring and reporting to other institutions.

Pursuant to the Energy Act 2003, the SEWRC consists of seven members, including a chairman. There are certain statutory preconditions for the eligibility of members, such as qualifications and work experience, which should guarantee the competent management of the authority; the Council of Ministers submits a proposal to the prime minister who then appoints each member. The members of the SWERC serve five-year terms and may not be reappointed after two consecutive terms in office. In the course of their duties, members must be free from conflict of interest under the Prevention and Establishment of Conflict of Interest Act. The Council of Ministers has the power to dismiss members from office.

The powers that the SEWRC discharges in the energy and water industries include:

- a* the adoption of trading arrangements for electricity and natural gas;
- b* the approval of general terms and conditions of certain contracts in regulated industries;
- c* price regulation;
- d* licensing (i.e., issuance, modifications, supplements, termination and cancellation);
- e* determination of availability capacity for power generation in the regulated market;
- f* regulatory approvals related to financing of licensed undertakings;
- g* administrative supervision and control; and
- h* the hearing of complaints against the conduct of licensed undertakings.

SEWRC decisions are subject to judicial review by the Supreme Administrative Court. The lodging of an appeal against a decision of SEWRC does not, however, suspend its enforceability.

Policy-makers are well aware that the creation of an independent authority has not been a remedy to every problem, let alone those arising out of incomplete liberalisation and lack of real competition. The Energy Act 2003, therefore, prescribes guiding principles that the SEWRC is bound to follow in discharging its powers. The principles lay down general objectives for the regulator and a roadmap for the industry's development. Accordingly, the SEWRC's conduct is guided by the following:

- a* prevention of competition foreclosure on the energy market;⁵
- b* balance of the interests between energy undertakings and their customers;
- c* equality between the separate categories of energy undertakings and customers;
- d* the creation of efficiency incentives for the regulated industries; and
- e* the creation of incentives for the development of a competitive market, where the conditions for competition are found to exist.

ii Regulated activities: licensing and authorisations

In line with the early Electricity Directive 96/92/EC, two alternative ways are made available for building new generation capacities: licensing and tendering.⁶ Licence

5 The SEWRC may initiate proceedings before the Commission on Protection of Competition.

6 Recourse to a tendering procedure implies a lack of confidence that the market would deliver the required investments. The Minister of Economy, Energy and Tourism has not held tendering

applications shall be lodged before SEWRC, which is competent to rule on this matter and prescribe conditions on the conduct of licensed undertakings. The Energy Act 2003 and the Ordinance on Licensing of Activities in the Energy Sector aim at establishing objective, transparent and non-discriminatory licensing criteria for activities in the energy sector.⁷ Nearly all energy activities are licensed in Bulgaria, the most prominent of which include power generation, transmission, distribution, supply on the wholesale or retail markets, management and operation of the electricity system.⁸

An energy licence is valid for a term of up to 35 years depending on the conditions of the energy assets and the financial status of applicants. The licence may be further extended for another period of up to 35 years. The SEWRC enjoys complete discretion in assessing whether a licence applicant holds sufficient technical, financial and human resources (as well as the relevant organisational structure).⁹

iii Ownership and market access restrictions

Eligibility requirements for licensing

Only a limited number of entities are eligible to apply for a licence under the Energy Act 2003. There are only two types of applicant that have standing to apply for a licence: local companies incorporated in Bulgaria or companies registered in another Member State of the EU or the EEA.

Entry restrictions

The Energy Act 2003 does provide express restrictions on the entry into certain sectors of the electricity industry. For instance, only one licence may be issued for the following activities:

- a* transmission of electricity (currently awarded to the NEC);
- b* management and operation of the electricity market (currently awarded to the ESO);
- c* public supply of electricity (currently awarded to the NEC);
- d* management and operation of the electricity system (currently awarded to the ESO);

procedures since the adoption of the Energy Act 2003.

7 Ordinance on Licensing of Activities in the Energy Sector was promulgated in State Gazette No. 53 of 22 June 2004, last amended in State Gazette No. 19 of 6 March 2012.

8 Trading in natural gas is a notable exception, which does not require licensing. There are other exceptions as the Energy Act 2003 introduces a bottom threshold of 5MW on certain activities. Licensing is therefore not a prerequisite for activities falling below this threshold (i.e., this concerns predominantly power or heat generation).

9 The commissioning of a nuclear power plant is made contingent on a decision of the Council of Ministers that is based on proposal made by the Minister of Economy, Energy and Tourism. A special permit and licence for the construction and operation of a nuclear power plant is required in addition to a power generation licence. The Nuclear Regulatory Agency is the competent authority discharging public powers in this sector.

- e* distribution of electricity within a local region (currently awarded to the respective distribution company: CEZ, E.ON or EVN); and
- f* retailing of electricity or natural gas within a local region (currently awarded to the respective end supplier: CEZ, E.ON or EVN).

Such restrictions are justified to the extent that they either prevent duplication of monopolistic infrastructure (i.e., natural monopoly) or provide for centralisation and coordination in the management of the market and the system as a whole (i.e., statutory monopoly). As discussed below, there are further restrictions arising out of unbundling requirements.

Ownership in the energy sector

The state continues to hold a substantial share of residual ownership in energy assets. Even though most players on the energy market have become privately owned, privatisation remains partial at best. As already noted, the state-owned BEH holds interest in the transmission company (the NEC), the system operator (the ESO) and two incumbents in power generation. Despite assertions that integration of activities does produce benefits, in principle, this market feature may lead to foreclosure of certain segments of the industry, especially where state-owned assets are more concentrated. Concerns have been expressed that competition on the deregulated segment of the market may have been limited due to high concentration of ownership. There have also been direct accusations that profit maximisation resulting from vertical integration transcends considerations of efficiency and operates to the benefit of monopolistic exploitation.¹⁰ In this context, the electricity trading industry has recently raised the issue that the licensing procedure and state fees are too burdensome: trading and capital adequacy requirements are so demanding that real competition on the market is limited.

iv Transfers of control and assignments

Regardless of the line of operation, be it generation, distribution or supply, the transfer of control and assignment over regulated assets or mergers and acquisitions do require regulatory approval throughout the life of a licensed energy undertaking.¹¹ The same applies to day-to-day level of operation as the SEWRC reviews and approves certain transactions on financing of licensed undertakings prior to their execution (e.g., loan agreements or secured transactions). The acquisition of shares of a licensee is exempt from regulatory review.

10 Kozloduy NPP, which is state-owned, has been blamed for creating of artificial deficits on the internal energy market (deregulated segment). Doubts have been expressed that deficit may have been created because of very poor coordination and forecast of demand.

11 For instance, corporate restructurings, such as mergers, spin-offs or split-offs do require a regulatory approval, as well as winding-up or liquidation proceedings.

III TRANSMISSION AND DISTRIBUTION SERVICES

The underlying feature of the electricity reforms in Bulgaria has been the separation of competitive from naturally monopolistic activities. According to this objective, power generation and supply that are generally considered competitive were separated from transmission and distribution, thereby promoting competition only where it is feasible; transmission services have remained under state ownership as a natural monopoly. In contrast, distribution services have largely been privatised as majority shareholding interest is now held by private undertakings.

i Transmission and distribution operators

The most strategic component of the electricity system, the high and medium-voltage transmission grid is owned by NEC. There are a significant number of large power plants directly connected to the transmission grid. It is also a statutory requirement that plants exceeding 5MW of installed capacity should seek interconnection to the transmission grid, not the distribution grid. It is worth noting that the NEC is the owner of the grid, but does not operate the grid, as this function has been reserved for the ESO. Currently, the ESO is wholly owned subsidiary of the NEC that is legally and organisationally separate from its parent company. The ESO and each of the distribution grid operators are jointly responsible for the operational planning, balancing and control of the electricity system.

In terms of medium and low voltages, Bulgaria has been divided into three separate regions,¹² in which licensed distribution companies deliver electricity to retail customers. The three major distribution networks are operated by CEZ Distribution Bulgaria AD, E.ON Bulgaria Grids AD and EVN Bulgaria Distribution AD. Despite corporate unbundling, these companies are vertically integrated with other undertakings within the respective energy group licensed for electricity retailing and trading.

ii Unbundling

So far, only Directive 2003/54/EC (the Second Liberalisation Package) has been implemented in Bulgaria. The Energy Act 2003 and secondary legislation allow only one undertaking to be licensed for transmission services in Bulgaria and, as already noted, this licensee is the NEC, the transmission grid owner. At the same time, the NEC is part of the vertically integrated undertaking, BEH.

Furthermore, the Energy Act 2003 dictates that the operation of the transmission grid be entrusted to an entity that does not hold another licence, and such entity shall not be eligible to conduct another licensed activity. The ESO is, therefore, exclusively in charge of transmission operations. The separation of the functions of transmission services and operation of the transmission grid is designed to respond to the requirements of Directive 2003/54/EC. Although the ESO is a wholly owned subsidiary of the NEC,

12 There are three major distribution areas: western Bulgaria, north-east Bulgaria and south-east Bulgaria. There is a fourth area called Zlatni Pyasatsi, which is insignificant as it basically serves a holiday resort.

statutory safeguards have been created to guarantee the independence of the ESO from the NEC as the latter acts in the capacity of a public supplier, power generator and electricity trader. Overall, both undertakings (NEC and ESO) belong, directly or indirectly, to the state-owned and controlled BEH.

In light of the foregoing, Bulgaria is falling behind the implementation of the Third Liberalisation Package (i.e., Directive 2009/72/EC); the final date for its transposition into national law was 3 March 2011. The unresolved problem that continues to pose a problem is the fact that the NEC conducts power generation and public supply while it is also an owner of the transmission grid and a parent company with respect to the ESO. Directive 2009/72/EC clearly requires separation of transmission (including operation) services from other activities.

A draft bill for implementation was passed at the first reading in Parliament on 8 March 2012; there is no indication, however, when the second reading will take place.¹³ Provisionally, the compliance solution revolves around the transfer of ownership over transmission assets from NEC (currently an owner of the transmission grid) to the ESO (operator) and safeguarding the ESO's independence in the context of the ITO unbundling model.

Bulgaria is moving forward towards effective unbundling that will separate transmission activities from power generation and public supply. The required autonomy of the ESO is bound to become a fact sooner or later. The ESO will be equipped with financial, technical and other resources enabling it to independently conduct transmission activities. Transmission services will then fit into the framework of unbundling under Directive 2009/72/EC.

iii Transmission and distribution access

Irrespective of the slow progress on unbundling, the Energy Act 2003 and secondary legislation strictly adhere to the provisions of Directive 2003/54/EC. Access to the transmission or distribution grid must be guaranteed under objective and non-discriminatory terms by implementing the model of 'third-party access'. The entities responsible for access to the grid are the ESO (for transmission) and the respective distribution operator (CEZ, E.ON or EVN). Access may only be refused on grounds of lack of capacity, where the provision of access would lead to technical problems, failing grid security, or deterioration of the conditions of access for other grid users.

IV ENERGY MARKETS

i Key market players to date

Many market participants are now privately owned companies, most notably in power generation and distribution. The base load of electricity is delivered by the only operational nuclear power plant in Bulgaria, Kozloduy NPP. The plans for a second nuclear plant in Belene have recently been abandoned. In its place, there are plans to expand the capacity

¹³ To become binding law, a bill must be approved at two readings in Parliament and then promulgated in the State Gazette.

of Kozloduy NPP. In terms of technology, coal power plants are most common. Mid-merit and peaking generation capacity is again provided by a number of coal power plants around the country. Small and large-scale hydropower plants and pumped storage provide additional capacity, even though their share is relatively small. Finally, the share of renewable energy sources in final consumption is still falling behind in the energy mix, despite the massive deployment of renewable energy plants in recent years.

On the wholesale market, the NEC acts in the capacity of a public supplier.¹⁴ It supplies electricity to end suppliers and large customers directly connected to the transmission grid. Retail supply of electricity is provided by three separately licensed companies: CEZ Electricity Bulgaria AD, EVN Electricity Supply Bulgaria AD and E.ON Bulgaria Retail AD (the structure is similar to that of distribution services). The retail market consists of ‘captive customers’, namely households and small businesses.¹⁵ Retail activities of the three energy groups have been unbundled from other activities in the energy sector, even though they remain vertically integrated with other licensed undertakings within the energy group they belong to (i.e., electricity distribution and trading).

Finally, licensed companies may carry out electricity trading, separately from other activities, in or out of the country. They are taking a growing share in the marketplace since they are entitled to enter into electricity import and export transactions with companies outside Bulgaria.

ii Development of energy markets

The Bulgarian energy market is currently in a transitional state between competition and regulation; this status is best reflected in the trading arrangements between market participants. The Energy Act 2003 and the Electricity Trading Rules (‘the Trading Rules’)¹⁶ set out the legal framework for transactions in the marketplace. Pursuant to the newly adopted Trading Rules the electricity market in Bulgaria includes the following interrelated elements:

- a* the market for electricity based on bilateral contracts;
- b* the organised market on the day preceding delivery (the day-ahead market);
- c* the balancing market;¹⁷

14 The notion of a wholesale market is conditional as there is no clear-cut separation between wholesale trading and retailing in Bulgaria.

15 In terms of ‘captive customers’, the Energy Act 2003 refers to households or businesses with less than 50 employees, and with an annual turnover not exceeding approximately €10 million, which have not selected another supplier and until such selection of another supplier has been made. This provision, however, is not controlled and enforced in practice. Even larger businesses may sometimes benefit from the status of a captive customer in order to avoid exposure to higher prices on the deregulated segment of the market.

16 Decision No. 94 of 25 June 2010, promulgated in State Gazette issue No. 64 of 17 August 2010.

17 ESO operates and administers the balancing market as it executes transactions with registered participants in order to offset nation-wide electricity system imbalances.

- d* the market for cold reserve and additional services; and
- e* the market for the supply of intersystem capacity.

This outline is embedded in two parallel segments of the market: a regulated segment, where SEWRC controls the prices and a deregulated segment where participants freely negotiate prices. Accordingly, bilateral contracts that may be executed on both segments are virtually the only means for executing transactions on the market. The day-ahead market (deregulated segment) has not been started yet and a power exchange is wishful thinking given the current state of the market. Transactions on the regulated market, where NEC acts as a public supplier, prevail in the context of securing the public service obligations of energy undertakings to supply captive customers with electricity. The situation therefore largely resembles the model of the 'single buyer' with the only exception that this concept is now confined to the regulated segment of the market.

Regulated segment

Bilateral transactions in electricity may be executed under regulated prices between the following market participants:

- a* power generators and the public supplier (the NEC) or end suppliers (CEZ, E.ON and EVN);¹⁸
- b* the public supplier (the NEC) and end suppliers (CEZ, E.ON and EVN);¹⁹
- c* the public supplier (the NEC) and the transmission and/ or distribution companies for the purposes of meeting technological losses (CEZ, E.ON and EVN);
- d* the end suppliers (CEZ, E.ON and EVN) and households, or small businesses with less than 50 employees and with an annual turnover not exceeding approximately €10 million.

Subject to regulation are also the prices for transmission of electricity through the transmission and distribution grid, interconnection and access to the respective grid.

Deregulated segment

The Trading Rules further specify that transactions with electricity at freely negotiated prices may be executed between power generators, electricity traders and customers registered on the market. As already noted, transactions on the deregulated market are presently confined to bilateral agreements.

18 In this case, power generators operate within the generation capacity reserved by SEWRC for the regulated segment of the market (see *infra*, 'Energy market rules and regulation'). Power generation from renewable energy sources under preferential feed-in tariff is also included in this section as feed-in tariffs are regulated by default.

19 In this case, the public supplier (NEC) sells electricity generated within the available capacity of generators reserved by the SEWRC for the regulated segment of the market.

iii Energy market rules and regulation

Participation on the market, capacity regulation

Power generators must maintain generation capacity for the regulated segment of the market in order to guarantee a secure and reliable supply of electricity to captive customers (i.e., households and small businesses). How much of their capacity they should reserve for the regulated market is decided by the SEWRC. Capacity availability quotas for power generation on the regulated segment of the market are allocated annually among independent power generators on the basis of a methodology approved by the SEWRC; this is a unique feature of the Bulgarian energy market, whereby power generators are ordered to share the burden of the semi-liberalised energy market and comply with public service obligations.²⁰

First, the SEWRC builds a demand profile by collecting data from end suppliers on the retail market. End suppliers submit demand forecasts in relation to the needs of captive consumers. Distribution companies also submit demand forecast with regard to technological losses of the grid.

On the other hand, the public provider (NEC) presents the load forecast under long-term power purchase agreements with thermal power plants (i.e., AES Maritsa East I TPP, Maritsa East II TPP and ContourGlobal Maritsa East III TPP) and the forecast from power generation from renewable energy sources, including the forecast from its own power generators (i.e., hydropower plants). The ESO also submits information concerning the capacity availability of power generators for the period (i.e., information about planned outages due to rehabilitation and maintenance), planned availability for cold reserve, ancillary services, as well as statistical information on the participation of the generators in the deregulated segment of the market for the previous regulated price period. The figures submitted by NEC and ESO form the supply that needs to be dispatched.

On the basis of the information received on supply and demand, the SEWRC estimates the difference between the supply already provided and demand forecasts. The positive difference is the further supply independent power generators need to produce to meet captive customer demands. The SEWRC therefore approves a coefficient ('Ki') representing the participation of each independent power generator on the regulated segment of the market, and capacity availability quotas for power generation on the regulated segment are accordingly allocated.

Pursuant to the Energy Act 2003 the allocation of individual capacity availability quotas (i.e., coefficient Ki) must ensure that the burdens of the market liberalisation are shared in a fair and just manner and that equal opportunities are provided to participate on the deregulated segment of the market. The allocation of individual capacity availability tends, however, to be ambiguous in practice. It is influenced by various economic factors such as the price and costs of the respective independent power generator. There is a

20 The SEWRC runs a system that barely resembles the characteristics of a technical pool. In such a system, power plants are principally dispatched in accordance with merit order based on their cost of production. Albeit an unwritten rule, the SEWRC allocates more capacity availability quotas to plants that have lower costs. Costs are, however, approved by the SEWRC.

notable trend of approving higher individual capacity availability to power generators with lower costs in order to preserve the low levels of the tariffs of the end suppliers. In practice, it is very likely that power generators with higher costs may receive a reduced number of allocated quotas, or even be left out without allocation, since the cost of electricity generated would be too expensive to pass on to customers.

The spare capacity, which is not reserved by the SEWRC for the purposes of regulated market, may be used for power generation on the deregulated segment of the market, cold reserve or ancillary services.

Price regulation

Once capacity availability quotas are established, price regulation is the next issue that features the interplay between the SEWRC on the one hand and power generation, transmission, distribution and supply on the other. The Energy Act 2003 expressly stipulates that price regulation must be non-discriminatory, objective and transparent. Regulated prices are approved annually by the SWERC and they must enable energy undertakings to recover economically justified costs and rates of return on capital. Regulated prices may also be modified upon application for price adjustments in cases of unpredictable changes of circumstances resulting in serious deviations of the actual costs for operation and deterioration of the financial standing of an energy undertaking.

As noted, the SEWRC makes an assessment of the economic justification of the costs for licensed activities on the basis of data submitted by regulated undertakings, its own assessment and comparative analysis of national and international practices. Understandably, certain types of costs are not taken into account, such as costs related to the sale of electricity on the deregulated segment of the market, costs not related to licensed activities, administrative sanctions and penalties. Regulated prices may, however, compensate for stranded costs as a result of investments related to the transition to a competitive market or public interest obligations imposed on a power generator (i.e., related to security of supply, environmental protection and energy efficiency).

The twin function of regulation (i.e., protection of the interests of customers and energy undertakings) is discharged by two primary methods of price regulation: rate of return on capital (cost plus) and incentive-based regulation. The second method may take the form of 'ceiling on revenues' or 'ceiling on prices'. The regulatory regime in Bulgaria combines these methods altogether.

The method of regulation for power generation and transmission that is currently employed by the SEWRC is the rate of return on capital.²¹ The SEWRC allows power generation to recover approved cost of production and a reasonable rate of return that may vary from 1.7 per cent for nuclear plants to 12 per cent for thermal plants (for 2011–2012). Transmission is also subject to rate-of-return regulation (i.e., 6.54 per cent for 2011–2012). On the other hand, the ceiling on revenues method is applied to distribution and end supply.²² Evidently, there is an interesting division in the way the

21 Please note that the formation of feed-in tariffs for renewable energy is slightly different (see Section V, *infra*).

22 The SEWRC is entitled to adopt a new approach and change the methods.

prices for transmission and distribution services are determined. The former are based on rate of return, whereas the latter on incentive-based regulation. The division may be further traced to rates charged for access to the respective grid. Access to the transmission grid (by the ESO) is also under the rate-of-return model. Surprisingly, access to the distribution grids is again subject to incentive-based regulation (ceiling on revenues) within the framework of distribution services.

iv Market developments

It is evident that the Bulgarian electricity sector remains heavily regulated. More than 70 per cent of the total electricity generated continues to be traded in the regulated segment of the market. Strong competition has not been observed in the deregulated market either, where Kozludoy NPP and Maritsa East II TPP (both state-owned companies) enjoy a rather dominant position. Other market participants, such as Sviloza and EnergoPro, have managed to take up a very small share of the deregulated market.

The pace of expanding the deregulated segment of the market is too slow to expect any tangible differences in the foreseeable future. It has been estimated that the deregulated segment grows by approximately 2 per cent per year.

V RENEWABLE ENERGY

Bulgaria adopted its first preferential purchase price (feed-in tariff) for electricity produced from renewable sources and combined heating in 2005. Feed-in tariffs have been determined annually by the SEWRC ever since. The Renewable and Alternative Energy Sources and Biofuels Act 2007 was the first statute to institutionalise renewable energy incentives. It guaranteed priority in interconnection for renewable energy power plants, mandatory purchase of electricity under long-term power purchase agreements and, most importantly, favourable feed-in tariffs that provided for a generous rate of return.

An unprecedented expansion of installed capacity based on renewable energy followed as a result. Developers of renewable energy soon faced a critical obstacle: old and underdeveloped grid infrastructure. In certain parts of the country, the transmission grid has become systemically overloaded, and the ESO had to intervene and suspend or restrict access to the grid due to insufficient transmission capability. Efforts to replace obsolete infrastructure have been modest by far and sometimes perfunctory. The scale of rehabilitation and expansion of the grid to the extent necessary for integration of the already existing installed capacity entails significant financial commitment that the transmission and distribution companies have not been willing to undertake. For instance, the so-called Dobrich Ring has been scheduled for rehabilitation as one of the most critical points of the transmission grid, but nevertheless very little has been done to improve the situation.²³

Meanwhile, expansion of renewable energy caused another significant consequence – a substantial increase in retail electricity prices. Feed-in tariffs are passed on as a ‘green

23 Recently a large cluster of wind power plants have been connected to substations part of the Dobritch Ring in north-east Bulgaria.

energy' charge in electricity bills. Furthermore, the intermittency of wind also requires more balancing capacity, which adds extra expense by definition. Policymakers considered these calculations may render electricity to customers prohibitively expensive. Electricity prices and the problems of the grid were the two most obvious reasons for the policy turn around in early 2011.²⁴ A new law was passed before Parliament, which drastically changed the landscape for the development of renewable energy plants. The new Energy from Renewable Source Act 2011 introduced a new procedure for interconnection, as a number of preparatory steps will now precede the previous interconnection procedure. In general, the regime for renewable energy has become a bit more restrictive.

i Coordination and approval of available capacity for interconnection

The most notable change affects the interconnection procedure. The ultimate objective is to avoid an excessive number of applications for interconnection at random points on the grid that may cause overloading. Coordination and planning of interconnection will enable efforts on grid rehabilitations and expansion to be concentrated. For this purpose, transmission and distribution capacity for interconnection will be planned and investment programmes for interconnection will be coordinated between the Ministry of Economy Energy and Tourism, the grid operators and the SEWRC. The maximum capacity for interconnection is ultimately approved by the SEWRC, which determines the total assigned capacity for interconnection together with designated zones and permissible voltage levels annually by 30 June.

Power generators must submit applications for assigned generation capacity on an annual basis in order to connect to the grid. Applications may be submitted as early as 1 July 2012 to the transmission grid operator or the respective distribution grid operator. Applications are ranked on a first-come, first-served basis until available capacity for interconnection has been utilised. Approved applicants will receive a statement on the conditions for interconnection. Whenever the overall capacity applied for by power-generation companies exceeds the total capacity for a designated zone, determined by the SEWRC, any further applications shall be rejected until the respective grid has been expanded or rehabilitated.

ii Feed-in tariffs and power purchase agreements

The new Energy from Renewable Sources Act 2011 provides that feed-in tariffs will remain fixed for the entire validity of power purchase agreements, except for electricity generated from biomass. Under its predecessor, tariffs were determined on an annual basis. The new provision will certainly shed more light and transparency for investors. The specific feed-in price that will be applied to a new power generator will be the feed-in price determined by the SEWRC at the time of putting the power plant into operation. Prices in real terms either remain more or less the same (i.e., for wind power) or have drastically fallen (i.e., for solar power). The SEWRC explained the reason for the falls in price by asserting that the lower prices reflect lower capital costs.

24 The formal reason for the new statute was the implementation of Directive 2009/29/EC.

In terms of formation, feed-in tariffs represents a unique fusion of rate-of-return regulation and incentive-based regulation. Tariffs consist of two components: a percentage of the average sale price of the end suppliers ('ceiling on revenues') and a premium customised according to the energy source ('rate of return'). The first component amounts to at least 70 per cent of the average sale tariff of the end suppliers (CEZ, E.ON and EVN) for the previous calendar year. In addition, a premium is determined by the SEWRC on the basis of the type of the primary energy source for power generation (wind, solar, biomass, etc). No minimum thresholds for the premium are specified.²⁵

Alongside the sophistication of feed-in tariffs, another aspect of incentive regulation has been adjusted. In particular, the terms of power purchase agreements ('PPAs') for electricity from renewable sources have been reduced to the following:

- a* 20 years for electricity generated from solar or geothermal power, as well as from biomass;
- b* 12 years for electricity generated from wind energy; and
- c* 15 years for electricity generated from hydropower plants of up to 10MW installed capacity and all other types of renewable energy sources.

iii The future of feed-in tariffs

The Energy from Renewable Sources Act 2011 contains a provision that incentives for additional renewable energy will be discontinued from the date on which the Minister of the Economy, Energy and Tourism reports that the national target has been achieved. Pursuant to Directive 2009/29/EC, Bulgaria has been assigned a target of 16 per cent renewable energy in final consumption by 2020. State officials and industry representatives constantly disagree on the actual percentage of renewable energy already achieved in final consumption. The problem largely comes from the fact that large-scale hydropower also counts towards this target, which could greatly affect calculations.²⁶

iv Electricity from biomass

Electricity from biomass is somewhat an exception from the generally restrictive outlook on renewable energy. The validity of PPAs for mandatory purchase of electricity from biomass has actually been extended to 20 years from the previous 15-year term under the repealed statute. Feed-in tariffs generally remain constant for the entire duration of the PPAs, except for electricity from biomass, which is subject to indexation. The indexation mechanism should reflect any changes in value of the following costs factors: costs for feedstock for power generation, costs for transportation fuels and employment-related costs.

Furthermore, an entirely new Forests Act 2011 entered into force. One of the objectives of the newly passed act is an increase of the timber yield in the context of preserving the natural timber stocks and guaranteeing sustainable economic development.

25 Feed-in tariffs must reflect the following cost factors: type of renewable source; technology, installed capacity, location; investment costs; structure of the venture capital and the investment; efficiency of the plant; operational costs and rate of return on capital.

26 Most of the large hydropower plants were commissioned before 1989 and they fall outside the scope of the feed-in tariffs.

State enterprises and municipalities – owners of forest lands, may execute agreements for timber yield or sale of timber. The maximum statutory term of such agreements may be up to 15 years; however, annual quantities of timber available for use – the subject of the agreements – must not exceed certain quantities of the annual use of timber by the contracting state enterprise or municipality.

VI THE YEAR IN REVIEW

Some key events that took place in the course of 2011 and early 2012 include the following:

- a* The Renewable and Alternative Energy and Biofuels Act 2007 was repealed and replaced by the Energy from Renewable Sources Act 2011 (May 2011) .
- b* The American private equity Contour Global acquired 73 per cent shareholder interest in Maritsa East III TPP (at the end of 2011). The new owner contemplates investments mainly in environmental protection and better labour conditions in the power plant. Expansion of generation capacity is also under consideration.
- c* EVN acquired the residual share of the state (approximately 33 per cent) in distribution (EVN Bulgaria Electricity Distribution AD) and end supply (EVN Bulgaria Electricity Supply AD). The constituents of the vertically integrated undertaking are almost exclusively owned by the majority shareholder EVN.
- d* Disposal of minority state shares (approximately 33 per cent) in other distribution companies (CEZ and E.ON) have been postponed. The Minister of Finance also announced that minority shareholder interest in BEH (holding NEC, ESO, Kozloduy TPP, Maritsa East II, Bulgartransgaz, Bulgargaz, etc) would be offered on stock exchange markets. Details of these plans are not yet clear. On 5 April 2012, opposition members of Parliament submitted a draft bill proposing a total ban on the sale of state assets.
- e* Energo-Pro AS (Czech Republic) acquired E.ON Bulgaria AD, the parent company of the E.ON vertically integrated undertaking that includes majority shareholding in E.ON Bulgaria Grids AD (distribution operator), E.ON Bulgaria Sales AD (end supplier) and E.ON Energy Services EOOD (electricity trader).
- f* The commissioning of a new nuclear power plant in Belene was officially abandoned (March or April 2012). The Belene plant that was approved by the EC Commission in 2007 was expected to deliver reasonable electricity prices and security of supply against the background of scheduled retirement of coal generation capacity in the next few years. The plans for additional nuclear capacity will be partly fulfilled as the government is currently contemplating an additional unit at Kozloduy NPP.

VII CONCLUSIONS AND OUTLOOK

The creation of a genuinely competitive market is still an abstract objective that policymakers will frequently employ in their rhetoric; however, insofar as the state of the market affects the overall competitiveness of the economy, further measures on liberalisation are inevitable in the foreseeable future. The general problem with

regulation is that, although its purpose is to protect public interest and promote economic efficiency, it can also induce distortions of its own that may affect pricing, cost reductions, investment decisions.

Since the first steps of liberalisation, the government in power has demonstrated its intention of avoiding a simple transfer of assets from public to private hands without being able to guarantee competition or at least to adequately protect market participants – and most of all customers – from market failures. For this reason, the market in Bulgaria has become increasingly complex and somehow became stranded in the current transitional state (i.e., in between competition and regulation). Notwithstanding, the incidence of continuous state ownership and heavy regulation, the free market is expanding along these lines as trading on the deregulated segment and electricity exports of electricity are regular.

On the other hand, renewable energy capacity has been continuously growing. Regardless of the policy change on renewable energy, the utilisation of renewable potential will not be impeded; it will merely be channelled through the realities of the market – customers are not able to carry the increasing burden of a rapidly growing renewable sector. The expansion of renewable energy will be controlled, but certainly not abandoned, as policymakers realise Bulgaria's commitments on sustainable development and the invaluable benefit of security of supply.

Appendix 1

ABOUT THE AUTHORS

YASSEN SPASSOV

Djingov, Gouginski, Kyutchukov & Velichkov, attorneys and counsellors at law

Yassen Spassov is an associate at Djingov, Gouginski, Kyutchukov & Velichkov with more than three years' legal experience, now primarily working in the fields of energy and environmental law. He is a qualified lawyer in Bulgaria, who acquired his qualifying law degree from the Sofia University St Kliment Ohridski. Later, he graduated an LLM course in environmental law and policy at University College London.

Mr Spassov's experience has mostly been concentrated in the energy and utilities practice of Djingov, Gouginski, Kyutchukov & Velichkov with a particular focus on acquisitions and financing of renewable energy plants, actions against grid operators and appeal proceedings before the energy regulator (SEWRC). The practice group also engages in emissions trading, waste management and other regulatory aspects of environmental protection.

DJINGOV, GOUGINSKI, KYUTCHUKOV & VELICHKOV, ATTORNEYS AND COUNSELLORS AT LAW

10 Tsar Osvoboditel blvd

Sofia 1000

Bulgaria

Tel: +359 2 932 11 00

Fax: +359 2 980 35 86

yassen.spassov@dgkv.com

www.dgkv.com