

The image features three stylized, light-colored silhouettes of business professionals in a meeting. A woman on the left is facing right, a man in the center is facing left, and a man on the right is facing left. They are positioned behind the main title text. The background is a solid yellow color with a grey border on the right side.

A Guide to Electricity Markets in Central and Eastern Europe

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Introduction

This guide to electricity markets in Central Eastern Europe describes the status of some of the most dynamic and rapidly growing electricity markets in the region. It has been prepared by lawyers who have extensive experience, and are experts in these electricity markets.

The electricity markets of the countries covered in this guide are in different stages of development. There is no common structure or trading arrangement in these markets; and some are more developed than the others. Governments, regulators and investors are facing different challenges. There would appear to be opportunities to invest in each of the jurisdictions covered in this guide, although not in the same sub-sector, and in some more than others. Governments in some jurisdictions have been, and are, pro active in attracting private investment, while in others they want to protect the incumbent monopolies.

This guide is intended to introduce you to these electricity markets and give you a flavour of some of the issues that may be relevant to these markets. It may not be treated as a substitute to a detailed investigation, more so because of legal and regulatory changes taking place in these markets. CMS Cameron McKenna are constantly following the developments (both business and legal) in these markets and would be able to assist with any enquiry you may have.

We sincerely hope that you will find the guide to be of interest.

Bulgaria

Overview

The Bulgarian electricity sector is fully unbundled, and there are no vertically integrated entities at present. The sector has been partly privatised, with some of the generation and district heating (CHP) businesses remaining in Government hands.

Bulgarian generation mix has thermal, hydro (although of small capacities), renewable and nuclear. Bulgaria is also looking to expand its nuclear generation capacity. A significant amount of capacity is contracted under long-term contracts. Its retail sector has been fully opened. System Operation and market operation has been separated from transmission network, although the entities are part of the same group.

Sector analysis

Generation

During the 1990s, Bulgaria was the largest producer of electricity in south-east Europe and a net exporter of electricity. However, in the past ten years, production capacity has decreased due to the poor maintenance of some power generation units, late refurbishment plans and the shut-down of older nuclear power units at Kozloduy NPP (units 1 and 2 on 31 December 2002 and units 3 and 4 on December 2006). As part of the process of joining the EU, the Bulgarian government committed to modernising and upgrading existing power plants.

In 1998, the government initiated two significant generation projects:

- a green-field project for 600 MW lignite Thermal Power Plant (TPP) – Maritza East 1, presently in construction phase, being developed by AES (US)
- the privatisation and upgrade of the existing 1000 MW TPP Maritza East 3– Entergy (US) entered into a joint venture with National Electricity Company (“NEC”). Entergy’s shares have since been acquired by Enel (Italy).

Plans are underway to complete construction of two new nuclear units at the Belene power plant (construction was suspended in 1991 due to lack of funds). NEC has established a special purpose

vehicle for the project and Russian company Atomstroyexport has been appointed as the EPC contractor. The two units are expected to have 1000MW of installed capacity each and NEC has launched a tender for minority JV partner. Ten companies (mainly foreign) have expressed interest and the final results are expected by the end of 2007.

Power production in Bulgaria is dominated by both coal and nuclear power and to a lesser extent, hydro power. Coal fired power stations (otherwise known as TPPs) account for 43.7% of power production. The country has large reserves of lignite coal around Maritsa Iztok and there are plans for an expansion of TPPs to be completed in 2009, significantly increasing output. Most of the TPPs operate on local low-quality lignites, produced by the state-owned Maritza East Mines.

The current widespread use of locally mined lignite coal (which has a high sulphur and ash content) causes high amounts of pollution. However, in response to EU Directive 2001/80/EC, the Bulgarian government has adopted a power plant ‘Rehabilitation Program’. The Rehabilitation Program provides for the rehabilitation of the thermo-mechanical equipment, construction of flue gas desulphurisation plants and implementation of other measures for reduction of noxious emissions.

Reform of the energy sector began in 1999 with the establishment of the State Energy and Water Regulatory Commission (“SEWRC”). Soon after, the vertically integrated state owned company, NEK EAD (“NEK”), was split into six independent generators, a national transmission system operator, and seven regional distribution system operators. The majority of the generation companies have been privatised.

The current major generation plants (existing and under construction), their respective owners and the term of Power Purchase Agreement (“PPA”) attached to each of these plants are set out in the table below.

| Plant | Owner | Term of PPA |
|--|---|---------------------------------------|
| Kozloduy Nuclear Power Plant (only units 5 and 6 in operation) | Kozloduy Nuclear Power Plant JsCo (a company wholly-owned by the State) | 1 year |
| Maritza East 2 TPP (eight units, 6 of these being refurbished) | Maritza East 2 JsCo (a company wholly-owned by the State) | 5 years with a 5 year option to renew |
| Maritza East 3 TPP (four units, all being refurbished) | Joint venture company (majority shareholder is Enel (Italy)) | 15 years |
| Maritza East 1 TPP (in construction phase, 2 units) | AES (US) | 15 years |
| Varna TPP (six units) | CEZ (Czech Republic) | 1 year |
| Bobov dol TPP (three units) | Bobov dol JsCo (a company wholly-owned by the State) | 1 year |
| Ruse TPP | Holding Slovenske elektrarne d.o.o. (Slovenia) | 1 year |

Power producers may sell electricity to NEK at the regulated price, determined and approved by SEWRC or to suppliers or eligible consumers at a negotiated price through bilateral contracts.

A number of the smaller Hydro Power Plants ("HPPs") have been privatised and the Bulgarian Privatisation Agency is also preparing for the sale of about 8 further plants. However, the total installed capacity of the privatised HPPs is very small compared with the installed capacity of the larger state owned hydro-electric plants. The State has not yet decided whether it will privatise ownership of the larger hydro-electric plants due to concerns about the security of the dams.

In addition to the above projects, the following projects are underway or under consideration.

- Mitsui & Co. (Japan) is rehabilitating the first four units of the largest TPP in Bulgaria (Maritza East 2, 1780 MW), financed by JBIC and backed with a state guarantee. The project is worth €226 million and is scheduled for completion 2009.
- RWE have just announced their serious intention to invest in a green-field TPP in the Maritza East area, by signing an agreement for cooperation with Maritza East mines.

- Government has adopted a decision in June 2007 for procuring another green – field TPP project at Maritza East site. The Ministry of Energy and Energy resources will be the procuring entity for the upcoming tender.

Renewable energy

Bulgaria uses renewables as part of its generation mix.

The newly adopted Renewable and Alternative Energy Sources and Biofuel Act (published in State Gazette issue 49, dated 19 June 2007) (the "RAESB Act") regulates the matter of renewable and alternative energy sources and biofuel, and is passed with the intention of fully adopting the EU directives 2001/77/EC and Directive 2003/30/EC. The main aim of the RAESB Act includes: encouragement of use of technologies for production and use of energy, produced by renewable energy sources; diversification of the energy supply; providing enlargement of the capacity of small and mid-sized enterprises that produce renewable energy and environmental protection. The production of electricity from renewable sources is to be encouraged, taking into account: the characteristics of the different kinds of renewable energy sources and the foundation principles of the electricity market. Renewable sources include wind, solar, geothermal electricity, energy from waves, currents, sea tides, hydroelectricity, energy generated from biomass, biogas from landfills, waste water disposal or treatment, or from the decomposition of plant and animal waste.

The RAESB Act requires that grid operators have to off-take electric energy from renewable resources, and to ensure that it is connected on a priority basis. In addition, there are rules for penalising non-compliance with the obligation to purchase electric energy from renewable sources. The grid operators have an obligation to provide for special funds in their yearly budgets for connection of renewable energy generation facilities to the grid as a priority.

The purchase price of the electricity is preferential and is formed under a formula, including 80% of the average price for the previous year and additional payment depending on the sources. The additional payment cannot be reduced by more than 5% on annual basis.

Wind power generation capacity is increasing in Bulgaria's power market but its contribution to total capacity is still negligible at about 30 MW. Areas of the country in the northern Black Sea Coast, the central mountain range and the Rhodop mountains in the southwest have been identified as suitable wind energy sites and the government is keen to encourage international investors to develop those sites.

As at 2006, NEK EAD was the operator of 31 HPPs with a total capacity 2563MW, following privatisation of three small HPPs with a total capacity of 4 MW in 2005.

Bulgaria is part of a joint-implementation project under Kyoto mechanisms with Austria developing the Tzankov Kamyk Hydro project worth 220 million Euros.

The 14 largest of these plants operate within four cascades: Belmeken-Sestrimo-Chaira, Batak, Vacha and Arda, all used to generate electricity, cover peak loads and regulate the parameters of the electric power system.

In 2005, the total output of the NEK hydro power plants amounted to 3544 GWh, and power consumption in the pumping mode was 537 GWh.

Approximately 63 small and micro HPPs are located on NEK property, all of which are likely to be privatised.

Bulgaria has a good reserve of geothermal energy and is rich in low enthalpy geothermal waters. About 30% of the total potential (about 107.2 MW) is used each year in space heating, greenhouses, drinking water and for balneology purposes. At present there are no geothermal reserve sites that generate power.

There is potential for development of biomass energy production through the use of wood wastes generated from Bulgaria's timber, paper and pulp industries, the use of agriculture and farming waste and landfill gas. Companies which have undertaken feasibility studies or pilot programmes to develop biomass energy resources in Bulgaria include Thermoconsult, EE Systems and Energoproekt. The Bulgarian Biomass Association has also conducted feasibility studies.

Emission control and allowances

Bulgaria is not able to meet the requirements of the Large Combustion Plants Directive of EU and asked for a transition period for 4 of its generation capacities: TPP Bobov Dol, TPP Varna, TPP Ruse and TPP Lukoil for certain periods until 2013. Therefore the grace period is applicable to about 15-20% of the Bulgarian energy sector. Unfortunately, the main generation capacities, such as Maritza East 2 TPP, Maritza East 3 TPP, Brikel, etc. were not excluded from the directive and therefore they will need to meet these standards. The above TPPs are significantly lagging behind their environmental obligations regarding SO₂ and NO₂ emissions limitations.

The Bulgarian national allocation plan has been provided and adopted by the EU Commission and the Ministry of Environment

and Waters published the allocations for the various companies. Bulgaria has used the Kyoto mechanisms in implementation of investment projects, the largest being the Joint – Implementation project between Bulgaria and Austria for the construction of the Tzankov Kamyk Hydro power station and damn.

Wholesale

As indicated above, NEK purchases electrical energy from generators under long term PPAs. The current Energy Act complies with the policy of the EU for the reduction of the long-term arrangements. Most of the generation capacities will base their operation on one year PPAs.

Transmission

In January 2007, in compliance with EU Directive 2003/54, NEK was restructured into two separate companies – NEK and Electricity Power System Operator JSC (“EPSO”) - a wholly owned subsidiary of NEK.

NEK owns Bulgaria's transmission infrastructure, including the 14,610km high voltage power network.

NEK's other functions include:

- import and export sales
- investment
- generation of electricity from large hydro-power plants.

The connection of generators to transmission and distribution grids is regulated by the Energy Law and secondary legislation dealing with interconnection to networks. Tariffs for connection to and use of networks are prepared by grid companies, but they must first be approved and then published by the regulator.

System Operation and Market Administrator

EPSO operates and maintains the transmission network pursuant to an agreement with NEK. EPSO is also the administrator of the balancing market.

Distribution

There are seven regional distribution companies which were previously 100% owned by the State. In 2004, the government disposed of a 67% stake in each of these companies. The companies were sold in three packages to EON-Energie AG (of Germany), CEZ a.s. (of Czech Republic) and EVN AG (of Austria) for a total of about €693 million. Another small distribution company, 'Zlatni piasazi – Service' is also privately owned.

Bulgaria also has a network of 21 District Heating Companies of which 12 have already been privatised or are close to completion of privatisation. Companies which now own District

Heating Companies include EVN (Austria), which owns the Plovdiv District Heating Company and Dalkia (France) which owns the Varna District Heating Company. Despite political tensions, the government proposes to privatise the Sofia District Heating Company, which is currently co-owned by the Bulgarian State and the Municipality of Sofia.

Cross border

Bulgaria presently has stable interconnections to the neighbouring countries, including: two 400kV lines with Turkey; two 400kV lines with Romania; one 400kV line with Greece and one 110 kV line with Macedonia. The project for the extension of the inter-connection between Bulgaria and Macedonia (400 kV) is in a final stage of implementation.

In the last years, Bulgaria has developed its place as a factor in the regional stability due to the heavy export of electricity to the neighbouring countries.

Cross-border transfers of electricity in Bulgaria are carried out by NEK of which Bulgaria is a member country. Interconnectors with foreign transmission systems are operated by EPSO, based on agreements entered into by it with the respective foreign system operators. EPSO allocates inter-connector capacity for cross-border transfers between the Bulgarian system and the UCTE systems.

Wholesale and retail competition

Wholesale competition

Bulgaria has adopted a regulated third party access regime. All eligible customers may enter into supply contracts and are entitled to transmission services. Network operators have a statutory and licence obligation to provide such services on a non-discriminatory basis.

Retail competition

The Bulgarian electricity supply market has been gradually opening to competition since 2003 and was fully opened in 1 July 2007. Captive customers and those who have not decided to change their supplier buy their electricity from NEK (if they are connected to a high voltage grid) or the distribution companies (if they are connected to a medium or low voltage grid). Eligible customers can buy electricity in Poland directly from generators or from holders of trading licences. Purchases can be effected through bilateral contracts.

Regulation

The competent authorities

The SEWRC is the primary regulator of the Energy Sector in Bulgaria but there is also a role for the Nuclear Regulatory Agency ("NRA") and the Ministry of Health.

The Ministry

The Ministry of Health is involved with radiation protection, and determines relevant standards. The Ministry of Environment and Waters monitors radiation levels throughout the country.

The SEWRC

The SEWRC is the sector regulator. Its primary functions are to:

- issue, modify, supplement, suspend, terminate and withdraw licences in the cases provided for in the Energy Law
- approve the general conditions of the contracts provided for in the Energy Law
- perform price regulation provided for in the Energy Law
- adopt the rules for trade in electricity (Market Rules) and the technical rules for the networks (System Code), acting on a proposal by the energy companies, and control compliance with the said rules
- adopt rules for the supply of electricity by suppliers of last resort as part of the rules for trade in electricity
- adopt and control the implementation of a methodology for setting of prices for balancing electricity as part of the rules for trade in electricity
- establish the rules for access to the electricity transmission network and to the electricity distribution network
- conduct the tendering procedures for new generation capacity
- consider the requests of energy companies for reimbursement of any stranded costs or any costs resulting from public obligations specified in the Energy Law (including purchase of electricity from new generators elected through competitive process) and endorse the reasoned amount of the said costs, as well as the manner of reimbursement thereof
- issue certificates to electricity producers on the origin of the electricity commodity produced from renewable energy sources and from cogeneration, and
- address requests and notices to the competent institutions of the European Communities for granting temporary exemption from the application of provisions of Community law and transitional periods in the energy sector in the cases provided for in Community law.

The SEWRC sets tariffs across the sector, namely, electricity production, distribution, trade and supply, gas supplies, internal and external transmission of gas and water.

In setting the maximum tariff, the SEWRC will consider the following, based on the principle of “upper level income”, (i.e. that prices may fluctuate up to the maximum tariff):

- the annual income which the generator or producer presents and justifies to the SEWRC
- the value of the power production assets
- the rate of return of the capital prior to taxation.

The NRA

The NRA is responsible for both regulation of nuclear installations in relation to safety and radiation protection and also the management of radioactive wastes. It also undertakes nuclear functions related to Bulgaria’s EU accession.

Licences

Participants in the energy sector in Bulgaria must obtain the appropriate licence to operate. The SEWRC issues the following categories of licences:

- generation of electric power
- generation of electric and heating power
- transmission of electric power
- distribution of electric power
- public supply of electric power
- supply of electric power to end buyers
- operation of the electric power grid (transmission network)
- distribution of electric power over the railroad transportation distribution network
- trade of electric power
- organising an electric power market.

A licence is not required for the generation of electric or heating power or distribution of heating power for capacities of up to 5 MW, or for generation of heating power for own consumption.

Permits and consents

In addition to the above, an operator proposing to establish a new generating plant must obtain other consents and authorisations, including:

- Environmental Implication Assessment (“EIA”), which is coordinated between the Ministry of Environment and Waters and their relevant regional offices
- construction design approval, which is co-ordinated between the Ministry of Regional development and public works
- construction permit, depending on the site, but it might require the involvement of the Ministry of Regional development and public works.

Regulation of monopolies

Government authorities that may regulate an acquisition of a company registered in Bulgaria include (depending on the circumstances):

- Privatisation Agency, in respect of privatisation commitments of the target
- Agency for Post-Privatisation Control, in respect of post-privatisation commitments of the target and monitoring of the performance of the commitments
- Commission for Protection of Competition, in respect of certain types of merger and acquisition activities
- SEWRC, in respect of licensing, tariffs and other related issues
- Ministry of Environment and Waters, in respect of potential environmental issues and risks
- local authorities, which require certain routine consents and permits.

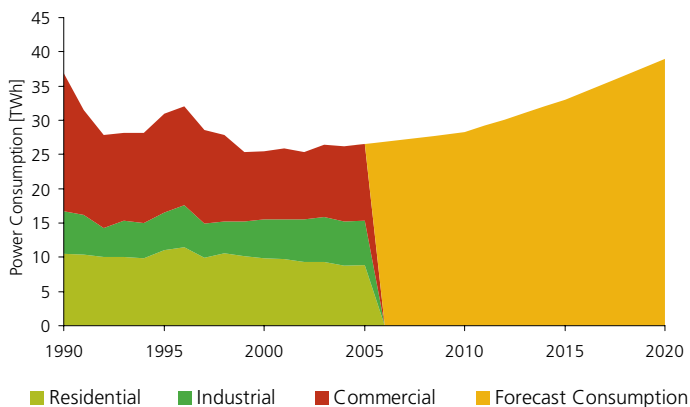
Country statistics

Supply and Demand balance

| Bulgaria, Supply and Demand Balance, 2004-2005 | | | |
|--|---------------|---------------|---------------|
| GWh | 2004 | 2005 | CAGR |
| Gross Production | 37,543 | 38,000 | +11.2% |
| Nuclear | 15,576 | 15,766 | |
| Gas | 1,298 | 1,314 | |
| Coal | 16,427 | 16,621 | |
| Oil | 714 | 750 | |
| Hydro | 3,333 | 3,352 | |
| Renewables | | | |
| Other | 195 | 197 | |
| Imports | 741 | 1,000 | +35.0% |
| Exports | 6,620 | 6,000 | -9.4% |
| Distribution Losses | 5,423 | 6,500 | +19.9% |
| Total Supply | 32,861 | 32,500 | -1.1% |
| Demand | | | |
| Residential | 8,770 | 8,857 | +1.0% |
| Industrial | 6,399 | 6,462 | +1.0% |
| Commercial | 11,072 | 11,181 | 41.0% |
| Total Demand | 26,241 | 26,500 | +11.0% |

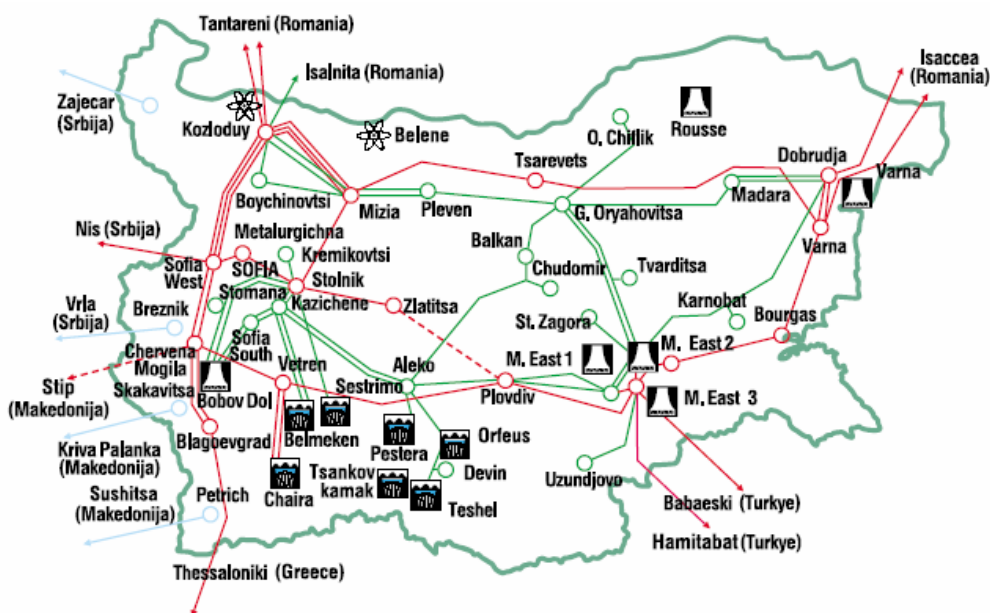
Source: Business Insights

End user demand, 1990-2020



Source: Business Insights Ltd

Electricity infrastructure



Source: Business Insights Ltd

Sources: European Bank for Reconstruction and Development, Renewable Energy Initiative, www.ebrdrenewables.com/sites/renew/countries/Bulgaria/default.aspx#latest

Czech Republic

Overview

The Czech electricity market is fully unbundled, although largely state controlled. Various legislative measures have been taken since 2001 to implement the EU Directives on the power sector (including renewable energy).

The dominant player in the Czech electricity market is CEZ ("CEZ"), which is involved in generation, distribution and retail supply of electricity. CEZ is a joint stock company of which 67.61% is owned by the state (the remaining shares being held by a number of investors).

Sector analysis

Generation

CEZ is a dominant generator in the Czech Republic. In 2005 it generated 72% of the total Czech electricity output. CEZ owns the only two nuclear power plants in the Czech Republic, and a further 10 coal power plants, 12 hydro plants, as well as solar and wind power plants.

The planned privatisation of the stake owned by the State in CEZ was cancelled in 2002. The privatisation of CEZ in a manner that would create a diversified and concurrent electrical energy market is not on the agenda at the moment. Recently, the Government has decided to divest an additional stake of up to 7% in CEZ that will be finally purchased by CEZ itself. CEZ is entitled to purchase additional 3% of shares. The issued capital of CEZ will then be reduced and as result of this, the stake of the state may remain almost the same.

There are nearly 1,500 other independent licensed generators in the Czech Republic. The market for electricity generation was fully opened to competition in 2002.

There are 24 medium to large (capacities of 50MW and above) generators that provide approximately 94% of the total electricity output in the Czech Republic.

Renewable energy

In accordance with the EU Directive 2001/77/EC on the promotion of electricity produced from renewable energy sources in the internal electricity market, the national indicative target relating to the consumption of electricity produced from renewable energy sources for the Czech Republic in the

Accession Treaty was set at 8% by 2010. Pursuant to the Act on Promotion of Electricity from Renewable Energy Sources, renewable electricity generators will benefit from preferential connections to transmission and distribution networks. Furthermore, renewable electricity generators can choose between two promotion schemes: (i) to offer electricity to transmission and distribution network operators who are obliged to buy it at set prices and conditions; or (ii) to sell electricity on the electricity market, in which case they are entitled to a 'green bonus' from the relevant transmission or distribution network operator. Each year the Energy Regulation Office ("ERO"), the sector regulator, sets out in advance the purchase prices for electricity from different types of renewable resources and also the level of green bonuses that provide a minimum profit for investors in renewable generators for 15 years.

Generation of electricity produced from renewable energy sources is promoted by the system of tax allowances. Income tax exemptions are available for generation and real estate tax exemptions are available for structures using electricity from renewable energy sources. In particular, pursuant to the Income Taxes Act¹, income from generation of electricity from renewable energy sources (e.g. small hydroelectric power plants with an output of up to 1 MW, wind powered electricity generating stations, heat pumps, solar powered facilities, plants for biogas and woodgas production etc.) in the first calendar year of their operation and in the immediately following five years is tax exempt. Further, structures where the heating system was converted from use of solid fuels to a system using renewable solar, wind or geothermal energy or biomass are exempt from building tax for five years after the year following the year when any such change was effected.²

In 2005 4.48% of gross electricity consumption was generated from renewable resources.³

Emission control and allowances

The Act on Emissions Allowance Trading, implementing Directive 2003/87 on establishing a scheme for greenhouse gas emission allowance trading within the European Community, came into force on 31 December 2004 and the corresponding National Allocation Program was approved by the Government. Directive 93/76 on limiting carbon dioxide emissions by improving energy efficiency was incorporated into Czech law by the Act on Energy Conservation and the Act on Air Protection.

¹ Provisions 4(1)(e) and 19(1)(d) of the Income Taxes Act No. 586/1992 Coll., as amended.

² Provision 9(1)(r) of the Real Estate Taxes Act No. 338/1992 Coll., as amended.

³ Report on Fulfilment of the Indicative Target of the Electricity Production from Renewable Resources for 2005 prepared by the Ministry of Environment, the Ministry of Industry and the Energy Regulation Office pursuant to the Section 7(2) of the Act on Promotion of Use of Renewable Resources

The National Allocation Program establishes the CO₂ emissions allowance for the Czech Republic as a whole. The Government has proposed an annual allowance of 101.9 million tonnes for the period 2008-2012. The European Commission reduced this proposal by 14.8 % to an annual allowance of 86.8 million tonnes. The Government intends to commence legal action against the European Commission in respect of its discriminatory decision towards energy and industrial entrepreneurs.

Transmission

CEPS AS ("CEPS") is the sole transmission operator in the Czech Republic and is at present 100% owned by the State. CEPS was established as a subsidiary of CEZ in 1999. CEZ lost its majority shareholding in CEPS in 2003 when it sold a 66% stake to the State. In August 2004, CEZ sold to the State its remaining 34% stake in CEPS in compliance with a Decision of the Competition Office⁴. CEPS is also responsible for parallel operation with the power systems of neighbouring countries via cross-border lines according to binding UCTE⁵ rules. In 2001, CEPS became the holder of an exclusive licence for electricity transmission valid until 2026.

System operation and Market Administrator

In 2001 the State established the joint stock company, Operátor trhu s elektřinou (the "Market Operator"), for the coordination of supply and demand for electricity in the Czech Republic, organizing the short-term electricity market, evaluation of deviations i.e. differences between real (metered) and contracted electricity, settlement of deviations and processing long-term electricity balance.

Cross border

The electricity network in the Czech Republic is part of the most interconnected network in Europe. The total nominal transmission capacity of cross-border lines (high voltage) is more than 50% of the installed capacity of all generation sources in the Czech Republic and they are used to export more than 15% of Czech annual electricity production⁶. Under the Energy Act, the Ministry may regulate the cross-border import and export of electricity.

The Czech transmission system provides a transit system in respect of the five neighbouring transmission systems. In particular, the transmission system operator interacts with SEPS in Slovakia, PSE in Poland, APG in Austria and VET and EON in Germany.

Cross-border transmission capacity for the import, export and transit of electricity is allocated by utilising auctions based on bilateral agreements between transmission systems operators on both sides of the particular cross-border trade. They follow established auction rules. Yearly, monthly and daily auctions are organised.

Distribution

There were eight regional electricity distribution companies ("REAS") in the Czech Republic, each of which had a natural monopoly in its respective region. CEZ controls the distribution activities of five of these and the German utility company E.ON owns two. In compliance with the Decision, CEZ sold minority stakes in two REAS to E.ON. and a minority stake in one REAS to a local investment company.

Wholesale and retail competition

Wholesale competition

In the presence of the dominant generator (CEZ) there is limited competition on the wholesale market. The decisive factor in determining the purchase price of electricity is the auctions, organised by CEZ. Suppliers providing electricity to the end consumers secure most of the electricity necessary for their deliveries through such auctions. This form of sale led to low competition in purchase prices, because all suppliers worked from the same source. The Prague Energy Exchange commenced trading in electrical energy trading in the Czech Republic on 17th July 2007. Its objectives are: (i) equal access to the electricity market for all trading participants; (ii) the establishment of a strong, competitive environment; and (iii) pricing based on supply and demand. The Prague Energy Exchange - the first market of its kind in Central and Eastern Europe - shall enable its participants to trade electrical energy in the form of term commodity futures contracts with monthly, quarterly or annual delivery (power futures).

Retail competition

In compliance with the Energy Act the electricity market was opened to eligible customers gradually, as follows:

- from January 2002, customers having an annual consumption of more than 40 GW (68 customers)
- from January 2003, customers having an annual consumption of more than 9 GW (approximately 400 customers)

⁶ Annual Report for 2005 prepared by ERO.

- from January 2004, customers (except residential households) having permanent consumption measurement (approximately 3000 customers). Permanent consumption is a form of measurement, where the amount of energy or mean value of capacity within the period measured is recorded continuously
- from January 2005, all customers except residential households (approximately 800,000 customers)
- from January 2006, all customers including residential households (approximately 5,500,000 customers).

Eligible customers are free to choose their electricity retailer. Residential households and small enterprises will enjoy universal service provided by a supplier of last resort appointed by ERO.

An eligible customer is entitled to choose its supplier of electricity. In particular, the purchase can be realised (i) through a bilateral contract with a generator or retailer; or (ii) in the short-term electricity market organized by the market operator. An eligible customer connected to one of the distribution systems or the transmission system will enter into a contract for the supply of electricity with a generator or retailer (at a market price) and a separate use of system contract with the distributor or the transmission operator (at a regulated price). In the second case, the purchase price of electricity is determined on the short-term market.

Retailers

In addition to retailers controlled by CEZ and E.ON, which are the main electricity retailers, the holders of retail licences also include relevant industrial companies from the engineering, metal, mining and heating industries. However, the proportion of the total amount of electricity supplied by these industrial companies is not significant. In total, the ERO has granted more than 270 retail licences.

Regulation

The competent authorities

Pursuant to the Energy Act⁷, regulation of the sector is conferred on: (i) the Ministry; (ii) the ERO; and (iii) the State Energy Inspection Board.

Regulatory powers

Ministry

The Ministry is required to give consent to the construction of the new facilities in the energy sector, to prepare the National Electricity Policy, and undertake the necessary information duties for the European Commission pursuant to the IME Directive.

The ERO

The ERO is the sector regulator for the electricity industry in the Czech Republic.

The ERO was established as an independent administrative body. It issues decrees laying down, for instance, the details of the financial and technical criteria for granting licences; the manner of specifying authorised areas; service standards; accounting rules; and the procedures for issuing licences and changing decisions to grant licences.

The scope of the ERO's authority includes: (i) determination of tariffs (ii) granting, amending or cancelling licences for the generation, transmission, distribution and retail supply of electricity; (iii) determining disputes arising from a failure to conclude agreements between individual licence holders and/or agreements with their customers; (iv) approving the Transmission System Operating Rules and Distribution System Operating Rules; (v) proposing to the State Energy Inspection Board to initiate inspection proceedings; and (vi) appointment of a supplier of last resort.

The State Energy Inspection Board

The State Energy Inspection Board provides control and imposes fines for breaches of the energy legislation. The licence obligations can be enforced by the ERO or by the State Energy Inspection Board (based on a request of the Ministry).

Licences

Each of generation, transmission, distribution and retail and wholesale market operation require a licence from the ERO (except for a nuclear facility). While the generation, transmission, distribution and market operation licence would be of a fixed duration not exceeding 25 years, a retail supply licence granted for 5 years.

Permits and consents

In addition to the Energy Act, and its underlying regulations and decrees by the ERO, other legislation and regulations impacting the electricity sector include the Act on Air Protection, the Act on Energy Saving, the Atomic Act (for nuclear reactors) and the Environmental Impact Assessment Act. For instance, the issue of a building permission relating to a construction of a power plant or another facility is required. An approval by the particular Air Protection Office will also be needed in respect of air pollution. Other important regulations include regulations by the Ministry on authorisations for new power plant construction and on the purchase of electricity generated from renewable energy sources

⁷ Provision 15 of the Energy Act.

or from the combined generation of heat and electricity. The construction of a generating plant with an installed capacity of 30MW or more and the construction of a direct line require Ministry authorisation⁸. For a nuclear generating plant, a licence is required from the State Office for Nuclear Safety.⁹

Regulation of monopolies

Regulation of anticompetitive practices in all economic sectors generally falls under the jurisdiction of the Competition Office. Protection against anticompetitive behaviour is provided for by the Act on Protection of Economic Competition No. 143/2001 Coll., as amended (in Czech Zákon. č. 143/2001Sb., o ochranu hospodářské soutěže ("Competition Act").

The Competition Office has the authority to approve or disapprove mergers and other changes in control over businesses in the electricity sector, or the acquisition of utility assets within the scope of the Competition Act. A merger, change of control or acquisition (each a concentration) must be approved by the Competition Office in the event that: (i) the aggregate net turnover of all the undertakings concerned achieved in the market within the Czech Republic during the last accounting period exceeded CZK 1.5 billion (approx. €47 million) and each of at least two of the undertakings concerned achieved a net turnover of the minimum of CZK 250 million (approx. €7.8 million) during the last accounting period; or (ii) the aggregate net turnover achieved in the Czech Republic during the last accounting period (a) by at least one transformed party, (b) by the undertaking to be acquired or a substantial part thereof, (c) by a competitor, whose undertaking is subject to control acquisition, or (d) by one of the competitors establishing the jointly controlled undertaking, exceeded CZK 1.5 billion (approximately €47 million), and the aggregate worldwide net turnover of the other relevant undertaking in the last accounting period exceeded CZK 1.5 billion (approx. €47 million).¹⁰

The notification proceedings will be opened when all required information, including documents evidencing all the facts establishing the concentration, are delivered to the Competition Office. After such filing, the Competition Office must decide within 30 days whether the concentration is subject to the approval of the Competition Office. In the event that the Competition Office finds that the concentration may represent a significant impediment to competition, the Competition Office may extend the procedure for an additional four month period. In the event that the Competition Office fails to issue a decision within the stipulated periods of time, the concentration will be

deemed approved. The deadline will be suspended for any period granted by the Competition Office to allow the merging entities to complete the notification or to clarify any issues on which the Competition Office has asked for further information.

The Competition Office will generally impose a fine to penalise anticompetitive practices, which can be up to CZK 10 million (approximately €313,000) or 10% of the entity's net turnover. The Competition Office may impose other remedies such as the revocation of a decision approving a merger if it finds that the merger approval was based on information and documents for which the parties to the proceedings were responsible and which were false or incomplete. Also, in approving a specific concentration, the Competition Office may impose conditions or restrictions for the protection of economic competition.

Country statistics

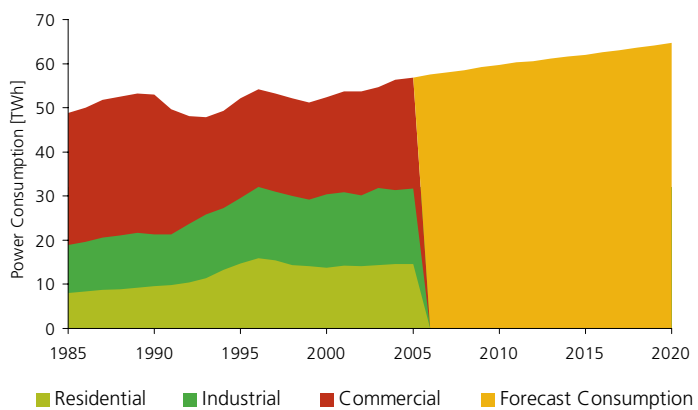
Supply and Demand balance

| Czech Republic, Supply and Demand Balance, 2004-2005 | | | |
|--|---------------|---------------|--------------|
| GWh | 2004 | 2005 | CAGR |
| Gross Production | 84,333 | 86,333 | +2.5% |
| Nuclear | 26,862 | 27,545 | |
| Gas | 3,777 | 3,873 | |
| Coal | 48,996 | 50,241 | |
| Oil | 343 | 352 | |
| Hydro | 2,761 | 2,832 | |
| Renewables | 728 | 747 | |
| Other | 865 | 887 | |
| Imports | 10,475 | 10,895 | +4.0% |
| Exports | 27,373 | 29,837 | +9.0% |
| Distribution Losses | 11,047 | 10,581 | -4.2% |
| Total Supply | 83,761 | 86,790 | +3.6% |
| Demand | | | |
| Residential | 14,525 | 14,671 | +1.0% |
| Industrial | 16,918 | 17,088 | +1.0% |
| Commercial | 24,945 | 25,195 | +1.0% |
| Total Demand | 56,388 | 56,953 | +1.0% |

Source: Business Insights

¹⁰ Provision 13 of the Act on Protection of Economic Competition No. 143/2001 Coll., as amended.

End user demand, 1985-2020



Source: Business Insights Ltd

Hungary

Overview

The Hungarian electricity sector is almost fully unbundled. It is largely privatised in the generation, distribution and retail sectors.

A new draft bill was adopted by Parliament on 25 June 2007 as Act No. LXXXVI of 2007 on Electricity. The Act is expected to come into force in January 2008. As the bill was only adopted recently and after this chapter was prepared, this chapter is based on the law that is currently in force. We will circulate an updated chapter reflecting the new legislation shortly.

Sector analysis

Generation

Following the restructuring of the vertically integrated state-owned utility, the Hungarian Electricity Works Trust (MVMT), eight generating companies, six regional distribution companies ("RDCs") and one transmission company ("MVM") were established.

Under the then prevalent legal regime, MVM had to enter into power purchase agreements with the generators. Accordingly, MVM signed 12 PPAs with generators during 1995-1996 when the generation sector was privatised. These PPAs were confirmed the subsequent Electricity Act of 2001 (the "Existing Law").

The generators with capacity of 50MW or more are set out in the following table (the figures below are as of 2003):

| Plant | Owner | Fuel | Official production capacity in 2003 (MW) |
|-----------------------------|---------------------|--------------|---|
| Paks Nuclear Power Plant | Subsidiary of MVM | Nuclear | 1,866 |
| Dunamenti Power Plant | Electrabel | Gas/oil | 2,126 |
| Tisza II Power Plant | AES | Gas/oil | 860 |
| Mátra Power Plant | RWE | Lignite | 836 |
| Csepeli GT Power Plant | ATEL | Gas | 389 |
| Oroszlány Power Plant | Subsidiary of MVM | Coal | 240 |
| Tiszapalkonya Power Plant | AES | Coal/Gas | 200 |
| Pécs Power Plant | PannonPower | Gas/Biomass | 190 |
| Lőrinci Power Plant | Subsidiary of MVM | Oil | 170 |
| Borsodi Power Plant | AES | Coal/Gas/Oil | 137 |
| Kelenföld GT II Power Plant | EDF | Gas | 136 |
| Sajószöged Power Plant | Subsidiary of MVM | Gas | 120 |
| Liter Power Plant | Subsidiary of MVM | Gas | 120 |
| Újpest Power Plant | EDF | Gas | 110 |
| Bánhida | Subsidiary of MVM | Coal | 100 |
| Debrecen | E.ON | Gas | 95 |
| Ajka | Transelectro | Coal | 71 |
| Kispest | EDF | Gas | |
| EMA Power | EPIC Energy Hungary | Gas | |
| Small Power Plants | EPIC Energy Hungary | Gas | 280 |
| Total | | | 8,046 |

In 2006, the PPAs were assigned to MVM's subsidiary, MVM Trading Company (MVMTC), which has consequently taken over the functions of the public utility wholesaler.

Generators are under a legal obligation to supply their Capacity contracted for public utility purposes to MVM (now "MVMTC", being the public utility wholesaler). This capacity is specified in their respective PPAs. MVM is obliged to pay the Generator for this capacity under a take or pay arrangement. Capacity in excess of this annual capacity may be sold on the liberalised market by the generators.

The PPAs are scheduled to expire between 2010 and 2015.

In 2002, in the context of Hungary's entry in the European Union, the Hungarian government issued Government Decree No. 183/2002 (VIII.23.) on the determination and management of stranded costs ("Stranded Cost Decree"), which entitled MVM (being the holder of PPAs prior to MVMTC) to recover stranded costs and at the same time imposed an obligation for MVM to try to renegotiate the PPAs in each year. We note that the law does not oblige the generators to amend or terminate their respective PPAs. In accordance with those provisions, renegotiations of the PPAs between MVM and the generators concerned took place in 2004, 2005 and 2006. These rounds of renegotiations failed as it appears that most of the generators are interested in keeping the existing PPAs.

In November 2005 the European Commission opened a formal investigation (State aid NN 49/ 2005) under EC Treaty state aid rules (Article 88(2)) on the PPAs. The Commission believes that the PPAs guarantee a return on investment to them without any risk as they cover around 80% of the Hungarian power generation market, leaving little room for new market entrants. The Commission has doubts about the compatibility of the PPAs with EC Treaty state aid rules that require that Member States do not grant aids or subsidies which distort or threaten to distort competition within the EU's Single Market. The generators, MVM and the Hungarian authorities submitted their respective views on the PPAs in February 2006. We note that the latest draft of the new electricity act made available to us is silent on the PPAs and the Government has set up a committee in charge for the (re)negotiation of the PPAs. Such (re)negotiations and the EU investigations are going on at the moment.

There are rumours that various investors are keen to develop gas plants in Hungary.

Renewable energy

Renewable electricity generation accounts for approximately 5% of total electricity generation in Hungary, which already exceeds the 3.6 % undertaking made towards the EU to be fulfilled by 2010. Increased renewable generation is one of the primary goals of government energy policy. The government has also issued an energy strategy together with an action programme; the latter has renewables as an important sub-programme. Government support is available for developing renewable energy technology. The Ministry of Economy and Transport's National Energy Efficiency Programme also supports the plan for developing renewable energy technology. Following implementation of the applicable EU directives in the Electricity Act, generators started examining the switching of fuelling of the power plants to waste and wood. Currently, there are 2 power plants operating solely on renewable sources and some of the bigger power plants, such as the AES Borsodi Power Plant, have partially switched to renewable sources in their operation.

Hungary has a great potential for geothermal energy but this has been little developed to date. In some areas geothermal energy is used for district heating. The current capacity of the hydro-electric plants in Hungary is around 40-60 MW. The Ministry of Economy and Transport has estimated that the maximum hydro-electric capacity of Hungary could be around 400-600 MW. Wind power plays an increasing role in the Hungarian renewable energy sector. During 2006, approximately 330 MW of wind power plant capacity was distributed among the applicants applying for a relevant license. Most of the projects licensed in 2006 are under construction.

A system of "green certificates" is to be introduced to Hungary within the upcoming year to provide more support for environment-friendly power generation. It is proposed that, under the scheme, all generating plant must obtain a green certificate. This can be achieved either by generating a specified amount of electricity from renewable sources or by purchasing a certificate on the open market. A generator that produces more than the minimum amount of renewable electricity can sell its surplus allowances.

Emissions control and allowances

EU Directive 87/2003 and 101/2004 has been implemented in Hungary with regards to emissions control and trading in 2005. The Hungarian system is part of the EU-wide emissions control and trading system, and therefore operates on 5-year period basis.

The current period for trading and allocation ends on 31 December 2007. The Government, in line with the applicable EU regulations, prepares a National Allocation Plan for each 5-year trading period, based on which emission units are distributed. The Hungarian emissions trading scheme applies to, among others, generators with power plants of a capacity of over 50MW.

A pool of emissions allowances is held in reserve for new entrants (i.e. companies that apply for an emission licence following the deadline for applications set in the licensing decree, or which experience an emission licence modification because of changes in the nature, operation or capacity of their facilities). Emissions allowances will be allocated to new facilities as they are commissioned. However, if during the compliance period, the reserves for new entrants run out, those who enter the market subsequently must purchase their emissions allowances in the market.

A generator must submit historic carbon dioxide emissions data for its facilities together with a request for an emissions licence and any other data it may consider necessary for determining its proper allocation. The emissions licence is issued by the national environmental authority and reviewed every 5 years.

Wholesale

MVM and now MVMTC is obliged to supply electrical energy to the RDCs for public utility purposes (i.e. regulated market). For this purpose, MVM had entered into agreements (Wholesale Agreements) with RDCs. The RDCs are not permitted to procure electrical energy for public utility purposes from any other source. The Wholesale Agreements have also been confirmed in the Electricity Act 2001.

These Wholesale Agreements have also been transferred to MVMTC.

Transmission

MVM owns the transmission network (230kV). Access to the transmission grid is granted to third parties at regulated tariffs on a non-discriminatory basis.

Cross-border

The Electricity Act and Government Decree 182/2002 regulate cross-border trade of electricity in Hungary. The Energy Office issues licences for cross-border trade to retailers and eligible consumers. It also licences Hungarian Electricity System Operator Ltd ("MAVIR") for cross-border trade so that it can, for example, import ancillary services. Only these licensees can

take part in cross-border electricity trade. In Hungary, one of the major problems is that cross-border capacity is constrained and across some borders the physical interconnection capacity has been contracted for 20 years.

MAVIR conducts regular auctions of available transfer capacity. Capacity is auctioned for one year, one month, one week or one day. If the transfer demand is expected to exceed the available transfer capacity then MAVIR follows the capacity allocation procedure set out in Decree 182/2002 that accords priority to imports for meeting the demand of non-eligible customers. MAVIR holds an auction for each cross-border point to allocate the offered capacity and the income so derived is set off against its operational costs for the next year. A holder of capacity rights for any given day must declare its expected demand for capacity seven days ahead. Before allocating capacity rights, MAVIR requests a declaration of the origin of electricity to be transported and a certificate of environmental compliance for the relevant power plants. MAVIR publishes capacity allocation data including any refusal of capacity with a short explanatory note attached to the refusal. After a capacity usage right expires, MAVIR calculates the actual average utilization of capacity according to the submitted schedule. If there is a greater discrepancy than is allowed by the commercial regulation and there is no cancellation at least 7 days before the actual usage, then the owner of the capacity must pay a follow-up capacity fee for the unused capacity.

System operation and Market Administration

System operation is undertaken by MAVIR.

MAVIR is also the administrator for a balancing market.

All market participants must participate in a so-called balance circle; otherwise they will not be permitted to have access to the system. A balance circle is an accounting unit of generators, traders and consumers in which the agreed quantities of generation and demand balance. The balance circle leader is responsible for settling balancing charges with the system operator (MAVIR). MAVIR is responsible for balancing generation and demand on the system and procures balancing actions from market participants, including MVM.

Distribution

The distribution networks are owned and operated by the six RDCs. Main distribution lines are 120 KV lines and secondary distribution lines are from 35 KV to 220 KV lines.

The six RDCs and their respective ownership structures are:

| | |
|--------|---|
| ÉDÁSZ | 100% E.ON |
| DÉDÁSZ | 100% E.ON |
| TITÁSZ | 100% E.ON |
| DÉMÁSZ | 61% EDF 20.6% Institutional investors 18.4% Others |
| ÉMÁSZ | 54.3% RWE 26.8% EnBW 18.9% Others |
| ELMŰ | 55.3% RWE 27.3% EnBW |

Wholesale and retail competition

Wholesale competition

Licensed traders are entitled to purchase electricity from the generators, other traders, the public utility wholesaler (if the latter has surplus electricity) and from abroad, and they are entitled to sell electricity to eligible consumers, other traders and the public utility wholesaler. The traders currently active in Hungary are generally subsidiaries established by the RDCs to be present on the open segment of the market.

Small Power Plants without long-term PPAs with MVMTC, as well as other generators with PPAs with MVMTC (in respect of excess capacity available with them), are free to sell their electricity output to any party, such as a Trader or directly to eligible customers. There are, however, only limited capacities, beyond those booked under PPAs, for such free sales.

Trading is undertaken through bi-lateral contracts. The market is quite volatile and sometimes in the past suffered from a lack of capacity.

There are no legal restrictions on the volumes that traders may import. The other licensees are limited as to the volumes of cross-border transmissions permitted under the Electricity Act (e.g. an eligible customer may only import electricity through to the extent of his own consumption; or the system operator may import only to the extent needed for system operation).

Retail competition

The retail market is divided between the public utility sector that serves non-eligible consumers and the competitive market that serves eligible consumers.

On 1 July 2004 all consumers (other than domestic households) became eligible consumers and from 1 July 2007 all consumers, including the households, are to be eligible consumers. Eligible consumers may terminate their public utility contracts and obtain electricity directly from the Traders or from generators upon free market conditions and prices. Eligible consumer may return to the regulated public supply sector.

The RDCs are, within the geographical territory specified in their licence, exclusively entitled, and obliged, to sell electricity to the public utility customers at a price determined by law. As mentioned above, electricity required for supplying non-eligible consumers must be purchased by RDCs from MVMTC at a regulated price.

The RDCs must enter into uniform public utility supply agreements with their public utility consumers. These contracts are highly standardized indefinite period agreements and the mandatory minimum content thereof is specified by laws. The consumer may terminate the public utility supply agreement any time, whilst the RDC may terminate only if the consumer commits breaches of the contract as set out in the laws. The RDCs may terminate (with a 60 days notice period) the public utility contract and disconnect the public utility consumer if the consumer fails to pay the due fees.

In the free market, there are currently about twenty Traders selling electricity to eligible consumers at a market-based price. The content of contracts between the Traders and the eligible consumers is subject to the agreement of the parties, which may freely determine the term, termination, the price and any other provisions of such contracts.

Regulation

The competent authorities

Parliament has established the regulatory framework for the electricity sector through the Existing Law. The Government and the Minister have developed detailed regulatory rules through executive decrees.

The Hungarian Energy Office (“HEO”) is the sector regulator and is responsible for the day-to-day regulation of the electricity market. The HEO is a civil service agency/public administration body with nationwide jurisdiction, powers and competence. It acts under the control of the Government and the supervision of the Minister. The president (and the vice-president) of the HEO is appointed (and dismissed) by the Prime Minister, on the proposal of the Minister. The six-year term of appointment exceeds the four-year government term and thereby ensures some degree of independence.

Regulatory powers

Minister

The Minister specifies inter alia the financial and technical criteria for connection to the transmission system; minimum amount of fuel reserves of power plants with more than 50 MWs capacity; rules of data supply; the technical and safety requirements in the electricity sector generally; and support for co-generated electricity. He designates the organisation responsible for technical safety supervision.

He also specifies, in association with the Minister of Finance, the administrative fees due and payable to the HEO and the official prices and tariffs applicable for the electricity sector under the Existing Law and the Act No LXXXVII on the determination of regulated prices (“Price Regulation Act”).

Regulated (maximised) prices for PPAs were reinstated in 2006 (as it was prior to 2004). In practice it means that the competent pricing authority, the Minister of Economy and Transport, may determine lower prices than the ones agreed in the respective PPAs and in such cases the regulated (maximum) prices will apply.

The general principle of governmental price setting is set out in the Electricity Act. Clause 96 specifies that “The detailed rules pertaining to pricing and the price regime shall be drawn up by the HEO based on the principle of minimum cost.” Minimum cost is defined by the act as “the justified expenditure required for the performance of the licensed activity”. The Electricity Act also stipulates that “The HEO shall review the price levels and the prices at the request of any interested party and shall make public the result of such review”. (However, the HEO may not amend the so reviewed prices as it falls the competence of the Minister.) Detailed pricing methods, formulae and variables are specified in the individual ministerial decrees.

The HEO

The HEO approves the Operational Code, the Trading Code and the Distribution Code prepared by MAVIR. These codes specify, inter alia, the detailed rules of the day to day operation of the electricity system, cross-border electricity transmission, relationship within the public utility sector and between network licensees and system users, the management of stranded costs, the energy policy requirements for the establishment of power plants, the social welfare electricity system and the maximum amount of fines. These Electricity Supply Codes set out the technical requirements and standards to be observed by the licensees of the electricity sector.

The HEO issues licences for performing regulated activities; supervises compliance with statutory regulations; determines the general rules of access to the transmission system for eligible consumers; defines minimum quality requirements; reviews applications for stranded costs and proposes them to the Minister; and performs consumer protection duties in the field of electricity supply.

As indicated above, the HEO does not have the power to set tariffs but does undertake preparatory work in the tariff setting process carried out by the Minister.

Licences

As mentioned above, the HEO administers the licensing regime for the electricity sector. Detailed rules are set out in Hungarian legislation as to the exact requirements and the decision making procedures for the granting of various licences. The rules regarding the granting of a licence apply to requests for the extension of licences.

Generators with the capacity of 50 MW or more are subject to complex licensing whilst generators having a capacity between 0.5 MW and 50 MW are required to obtain a simplified license, which can be requested under a simplified procedure.

Distribution of electricity is licensed by the HEO pursuant to the Electricity Act. An operating licence for electricity distribution is valid for a period of 25 years and may be extended. Access to the distribution system is available on a similar basis to the transmission system. Distribution tariffs are subject to regulation. As in the case of generation tariffs, distribution tariffs are prepared by the HEO, but the Minister promulgates the prices.

The HEO also licenses retailing in the competitive market but it is not subject to price regulation. An operating licence for retailing is valid for a period of 10 years and may be extended.

With respect to the licensing of new generation capacities the procedure of licensing is dependent on the size of the planned new plant. For plants in excess of 50 MW capacity, the HEO issues a (i) licence on the selection of the primary fuel of the new plant, (ii) a licence of the settlement of the new plant and (iii) a licence on the generation of electricity. Regarding new capacities under 50 MW, these licenses are issued in a single so called "simplified" licensing procedure.

Permits and consents

In addition to the licences issued by the HEO for the development of new generation capacities, the licences of the competent specific building authority, the Hungarian Commercial Licensing Authority (in Hungarian: Magyar Kereskedelmi Engedélyezési Hivatal) and the permits of the competent environmental authorities (and the performance of various impact studies) are also needed.

Regulation of monopolies

The Hungarian Competition Office ("Competition Office") has the authority to impose sanctions for anti-competitive practices in the electricity sector. The approval of the Competition Office is required for any concentration (acquisition, joint venture or merger) of undertakings in the electricity sector if the combined net sales revenue of the undertakings involved in the previous financial year exceeds the thresholds set out in the Competition Act.

When applying for a merger approval, the impact of such merger on competition will be assessed. The Competition Office may not refuse to grant authorization if the merger does not create or intensify a dominant position in so far as to prevent the development, maintenance or expansion of effective competition in the given market or in a significant part thereof.

In the electricity sector, the HEO has jurisdiction over mergers, subject to consultation with the Competition Office. The HEO must approve any merger involving a licence holder. Approval from the HEO is also required for any acquisition of a significant or a controlling interest in a licensed enterprise. The HEO may refuse to grant approval or may render its approval conditional if a proposed transaction poses a threat to security of electricity supply or to competition.

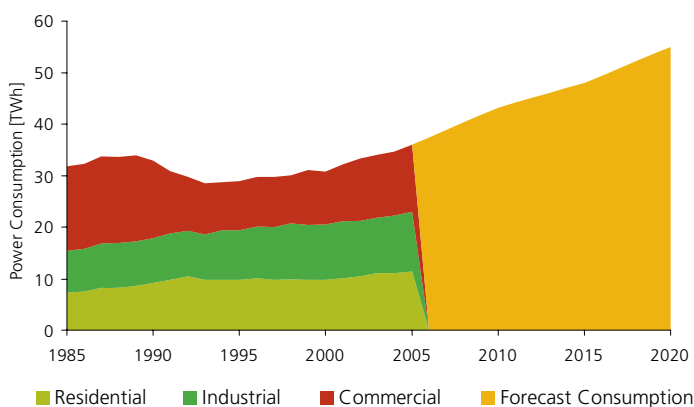
Country statistics

Supply and Demand balance

| Hungary, Supply and Demand Balance, 2004-2005 | | | |
|---|---------------|---------------|---------------|
| GWh | 2004 | 2005 | CAGR |
| Gross Production | 31,400 | 31,087 | -1.0% |
| Nuclear | 11,199 | 11,088 | |
| Gas | 10,797 | 10,690 | |
| Coal | 7,580 | 7,505 | |
| Oil | 779 | 771 | |
| Hydro | 196 | 194 | |
| Renewables | 700 | 693 | |
| Other | 149 | 148 | |
| Imports | 13,800 | 13,162 | -4.6% |
| Exports | 6,300 | 4,553 | -27.7% |
| Distribution Losses | 4,162 | 3,764 | -9.6% |
| Total Supply | 41,038 | 40,845 | -1.3% |
| Demand | | | |
| Residential | 11,032 | 11,411 | +3.4% |
| Industrial | 11,277 | 11,685 | +3.4% |
| Commercial | 12,429 | 12,856 | +3.4% |
| Total Demand | 34,738 | 35,932 | +3.4% |

Source: Business Insights

End user demand, 1985-2020



Source: Business Insights Ltd

Electricity infrastructure



Source: Business Insights Ltd

Poland

Overview

The Polish electricity sector is partly privatised. It has unbundled entities as well as vertically integrated entities. Vertically integrated state owned enterprises in the electricity sector are to be partially privatised in 2008 and 2009.

A significant quantity of electrical energy is contracted under long term agreements, and there also exists a wholesale competitive market with a balancing mechanism.

Sector analysis

Generation

The generation sub-sector includes large power plants and combined heat and power plants, which are centrally dispatched. The key electricity plants are: Belchatow; Opol; Turow; Kozenice; Rybnik; Polaniec; Dolna Odra; Ostroleka; Patnow-Adamow-Konin; Jaworzno; Laziska; Lagisza and Siersza power plants.

The list of major combined heat and electricity plants covers: Warszawa; Lodz; Poznan; Krakow; Wroclaw; Wybrzeze; Katowice; Bialystok and Bedzin co-generation plants. Minor players, such as smaller co-generation plants and auto-generators connected at the 110 kV level are not dispatched centrally.

Only a few large power plants and heat and electricity plants have been privatised so far. The privatisation process of electricity plants has been completed only for Polaniec electricity plant (currently owned by Electrabel) and Rybnik electricity plant (owned by EDF and EnBW). However, most of the combined heat and electricity plants have been privatised and are owned by EDF, CEZ, Dalkia or Vattenfall.

State-owned entities have been integrated into four vertically integrated groups and are going to be partially privatised through floatation of minority stakes to be carried out in 2008 and 2009. These groups are: Polska Grupa Energetyczna, Energetyka Poludnie, Grupa Energa and Grupa Enea. All of them combine generation, distribution and trade activities. However, according to the IME Directive unbundling regime, starting from 1 July 2007, distribution system "operators" have been legally unbundled.

Renewables

A series of amendments to the Energy Law of 10 April 1997 (the "Energy law"), aimed at further promoting renewables, was introduced ahead of Poland's accession to the EU with the intention of fully transposing EU Directive 2001/77/EC on the promotion of electricity produced from renewable energy in the internal electricity market.

According to such regulations, all licensed retailers and generators who sell directly to end-users are obliged to purchase certificates of origin from renewable energy sources in accordance with the thresholds set by the Ministry of the Economy (5.1% in 2007, 7.0% in 2008, 8.7% in 2009 and 10.4% in 2010-2014) or alternatively make a relevant substitution payment, calculated pursuant to provisions of Energy Law, to the National Environment Protection Fund. Under this scheme, such renewable energy sources must be located in Poland. Renewable sources include: wind, solar, geothermal electricity; energy from waves, currents, sea tides; hydroelectricity; energy generated from biomass; and biogas from landfills, waste water disposal or treatment, or from the decomposition of plant and animal waste.

Certificates of origin are issued by the President of the Energy Regulatory Authority (URE) to renewable generators, who sell them to suppliers, allowing the regulator to verify that a supplier has fulfilled its renewable purchase obligations. Another new solution is a requirement that grid operators have to off-take electric energy covered by the purchase obligation, and to ensure that it is transmitted on a priority basis. In addition, there are rules for penalising non-compliance with the obligation to purchase "green" certificates.

A similar regulatory system has recently been introduced in respect of effective cogeneration sources.

Renewable energy developers also enjoy other benefits, such as an exemption from excise tax on output (which all other generators are subjected to) and help from local environmental funds to finance their projects. Low-interest loans available from the National Fund for Environmental Protection and Water Economy as well as the Bank for Environmental Protection, which finance projects with environmental benefit. Grants are also available from EcoFund.

Emission allowance

Poland is not able to implement the requirements of the Large Combustion Plants Directive from 2008. Therefore, Poland asked for and was granted grace periods extending to 2015 for sulphur dioxide emissions, and to 2017 for nitrous oxides. The grace periods are applicable to some 25% of the Polish Energy sector. The relevance of the grace periods, however, has been virtually eliminated by very stringent emission limits contained in the Accession Treaty and applicable to all large combustion plants.

Emission control and allowances

Currently, the European Commission is adopting the Polish national allocation plan for the second trading period, running from 2008 to 2012. Poland has presented its national allocation plan to the European Commission for approval. However it was revised by the Commission and Poland was granted allowances for the emission of 208.5 million of tons of CO₂, which is 26.7% less than Poland actually requested. As a result of the afore-mentioned decision, Poland has revised its allocation plan and is currently requesting the allocation of 259.7 million of tons of CO₂.

Wholesale

In the 1990's, approximately 65% of the electricity generated in Poland was covered by long-term contracts between the generators and the Polish Electricity Grid Company (Polskie Sieci Elektroenergetyczne S.A. or "PSE"), which is state-owned. Currently, this share has decreased to ca. 50%, but is still viewed by the Polish government as constituting an obstacle to the introduction of a competitive electric energy market. The government has recently been making efforts to introduce legislation that would terminate the long-term contracts. The latest concept of the strategy for the termination of such contracts is based on the assumption that participation in the programme by a given generator will be voluntary. Compensation for termination of PPAs will be paid in annual instalments and should cover the stranded costs of a given generator, i.e. should be equal to the capital expenditures incurred by a given generator before 1 May 2004 to acquire assets for electricity generation, that could not be offset by the income from sales of electricity and capacity on a free market. The amount of compensation will be determined on the basis of individual calculations made by the President of URE pursuant to formulas specified in the law, which may be appealed against by the generator to the Court for Competition and Consumer Protection.

According to the Government's estimates, the total amount of compensation will be approximately PLN 12 billion. The funds to be allocated for the payment of compensation will be raised by a system restructuring charge to be paid, in principle, by all electric energy off-takers in Poland. In order to enable the payment of compensation to generators, PSE will set up a special company to be responsible for funds collection and distribution of funds. The law is likely to come into force in July 2007.

At present, the distribution companies purchase electricity mostly from PSE and retail it to final customers. The distribution companies are expected increasingly to purchase electricity from other sources on a competitive basis. Local energy markets will then gradually develop.

Transmission

The transmission grid (220 kV and above), is owned by PSE Operator S.A. ("PSE Operator") which performs the role of transmission system operator. PSE Operator is a joint stock company wholly owned by the state (the State Treasury). The connection of generators to transmission and distribution grids is regulated by the Energy Law and secondary legislation dealing with interconnection to networks. Tariffs for connection to and use of networks are prepared by grid companies, but they must first be approved and then published by the regulator.

Network operators are obliged by law, as well as by the terms of their licences, to connect all entities, including generators, to their networks, on a non-discriminatory basis, provided that the connection is technically and economically feasible and the applicant satisfies the requirements for connection. A generator has to enter into a detailed connection agreement, which determines the obligations of the parties, in particular with respect to the payment of charges and it establishes relevant deadlines. The general rule is that connection applicants can only be charged a connection fee in accordance with the published tariff and only if the expansion of a network is provided for in the specific plans developed by local communities. In the above situation, the connection charge is calculated on the basis of one quarter of the average annual investment in that part of the network. The rest of the connection cost is recovered by the network operator from all users through transmission charges.

However, the above principles are not applied to generators that are charged the full cost of their connection, including the costs of investments on the transmission/distribution side of the connection boundary.

Cross border

Cross-border transfers of electricity in Poland are carried out by the transmission system operator, PSO Operator. The national transmission system is interconnected with the German, Czech and Slovakian systems belonging to UCTE, with the Scandinavian NORDEL system (through an inter-connector with Sweden), as well as with the Belarusian and Ukrainian systems. Inter-connectors with foreign transmission systems are operated by PSE-Operator, based on agreements entered into by it with the respective foreign system operators.

PSE-Operator allocates inter-connector capacity for cross-border transfers between the Polish system and the UCTE systems in accordance with the PSE-Operator grid code. However the afore-mentioned is co-ordinated with Czech and German system operators via system of auctions. Currently, PSE-Operator does not procure any transmission services abroad, and the system users have to procure such services themselves.

System users may reserve cross-border inter-connector capacity for hourly periods, based on weekly or daily submissions. PSE-Operator allocates capacity on the basis of submission by system users. Reserved monthly or annual inter-connector capacity may be assigned by a system user to another system user.

System operation and Market Administrator

The operation of the transmission grid is administered by PSE – Operator.

Distribution

As of 1 July 2007, the distribution and retail sub-sector consists of fourteen local electricity distribution companies, all of which are joint stock companies. Most companies are still wholly-owned by the State Treasury, and according to governmental plans they are to be consolidated to form four larger groups. Only Gornoslaski Zaklad Elektroenergetyczny S.A., the company servicing the Upper Silesia region of Poland, and STOEN S.A., the Warsaw distribution company, have been privatised so far and are owned by Vattenfall and RWE, respectively.

Wholesale and retail competition

Wholesale competition

Poland has a bilateral wholesale competitive market in which the PSE-Operator is responsible for balancing the Polish electricity system. This is achieved through an hourly balancing mechanism, the detailed rules of which are set forth in a transmission grid code developed by PSE-Operator.

Poland has adopted a regulated third party access regime. All customers who are eligible may enter into supply contracts and are entitled to transmission services and network operators have a statutory and licence obligation to provide such services on a non-discriminatory basis.

Retail competition

The Polish electricity supply market has been gradually opening to competition since 1998 and was fully opened in 1 July 2007. Customers and those who have not decided to change their supplier buy their electricity from PSE (if they are connected to a high voltage grid) or trading companies separated from former distribution companies (if they are connected to a medium or low voltage grid). Eligible customers can buy electricity in Poland directly from generators (ca.750 generating licences have been issued) or from holders of trading licences (there are 320 licensed traders). Purchases can be effected through bilateral contracts, via the Commodity Electricity Exchange and/or with the use of several internet trading platforms. As of 1 July 2007, all customers are fully eligible to change their supplier. In practice, however, only some of major industrial offtakers decide to do that.

Regulation

The competent authorities

The Minister of Economy, as the supreme state administrative authority with respect to matters concerning energy policy, supervises the President of URE, the sector regulator. The President of the URE is appointed by the Prime Minister. Generally, all decisions of the President of URE may be appealed to the Court for Consumer and Competition Protection in Warsaw. The Court deals with competition and energy cases and appeals against its judgements are considered by the Court of Appeals in Warsaw and then, in limited circumstances, by the Supreme Court.

Regulatory powers

The Minister

The Minister's powers include adopting secondary legislation pertaining to matters such as: (i) terms and conditions of connection to electricity networks; (ii) tariff principles; (iii) wholesale trade; (iv) mandatory purchase of transferable certificates relating to electric energy co-generated with heat and electric energy from unconventional and renewable sources; and (v) the qualifications of employees operating electricity networks and other equipment.

The URE

The scope of the responsibilities of the President of URE is specified in the Energy Law. The President of URE is independent from the Minister of Economy. However, he must comply with the secondary legislation issued by the Minister of Economy pursuant to the Energy Law.

The President of URE is responsible for, among other things:

- issuing, amending and withdrawing licences for generation, transmission, distribution and trading of electricity
- approving and controlling tariffs in accordance with the principles specified in the Energy Law
- supervising the quality of retail supply and customer service standards
- resolving disputes concerning the terms of transmission services or concerning refusals by energy enterprises to enter into agreements for the sale of electricity
- imposing fines on energy companies for non-compliance with various obligations imposed by the Energy Law
- co-operating with the competition authorities in counteracting monopolistic practices of energy enterprises, and
- verifying the qualifications of persons handling the operation of the grid, energy installations and equipment.

Licences

The principal means for regulating the electricity sector is a licensing regime. Undertaking any activity in the generation, transmission, distribution or trade of electricity requires a licence from the President of URE. Failing to obtain a licence is a misdemeanour subject to a penalty.

Licences are issued for a period of at least 10 years and not more than 50 years. A licence may be issued only to an enterprise having its seat in any EU Member State or EFTA country, being a party to European Economic Area agreement. To obtain a licence, an applicant must demonstrate that it has sufficient funds and technical capabilities to carry out the given type of activity, that its employees have proper qualifications (as specified by the Energy Law) and, if applicable, that it has obtained a site development decision with respect to a particular project. The grant of a licence may be subject to the provision by the applicant of security for possible third party claims resulting from its activity.

Generally, the President will be reluctant to issue the licence until the facility is about to commence its operation. Commonly, the practice is such that promoters apply for a

promissory licence before the construction commences and then for the actual licence when the construction is at a late stage. The licence must then be granted unless the legal or factual data presented in the application for the promissory licence has (adversely) changed.

The President of URE may amend or withdraw a licence either upon the application of a licensee, or upon the President's own initiative, for reasons related to state security or defence, or in the event of the licensee's division or merger with another entity. The President of URE must withdraw a licence if, for example: (i) the given enterprise has failed to undertake the activity within specified period, being requested to do so, or has permanently discontinued the licensed activity; (ii) a court issues a final decision prohibiting the licensee to engage in the licensed activity; or (iii) the licensee grossly violates the terms of a licence.

In 2001, the President of URE exempted all enterprises engaged in the generation or trade in electricity from the obligation to submit their tariffs for approval on the basis that there was sufficient competition in these activities. Currently, this exemption does not apply to certain sales of electricity by PSE to distribution companies, and the sale of electricity by transmission and distribution companies.

Permits and consents

Before construction commences, the promoter of a power plant should first obtain a land management decision (no title to site necessary at this stage) and then a building permit (title to the site, such as ownership, usufruct or long-term lease is required). Both decisions are issued by the relevant local authorities. Obtaining a land management decision will usually involve conducting an environmental impact assessment. Operating the facility may commence after the operating permit is obtained. This involves a number of approvals from the police, fire unit, sanitary inspector, etc.

There are no requirements specific to the foreign companies acquiring interests in the electricity sector. The only restriction which applies specifically to foreign companies pertains to the acquisition of land in Poland. Obtaining an ownership title to the land (or the right of perpetual usufruct) requires the consent of the Minister of the Interior. This requirement also applies to acquiring shares in Polish companies owning land in Poland if, as a result of such acquisition, the company becomes controlled (directly or indirectly) by a foreign entity. The terms

“controlled” and “foreign entity” are defined in the Act on Acquiring Real Estate by Foreigners. Subject to certain exceptions relating to forest and farmland, the restriction does not apply to foreigners who are EU citizens or companies.

In addition, an investor who obtained shares in an electric utility through a privatisation process may be contractually restricted from disposing of these shares to third parties for a certain period of time.

Regulation of monopolies

Preventing and/or punishing anticompetitive practices in all sectors of the Polish economy, including the electricity sector, is within the scope of competence of the President of the Polish Competition and Consumer Protection Office (“UOKiK”). The President of UOKiK acts independently of the President of URE.

Subject to certain exemptions, the Act on Competition and Consumer Protection of 2007 provides that an intention to implement one of the specified transactions must be notified to the President of UOKiK, if:

- (i) the worldwide aggregate turnover of the entrepreneurs involved (and their capital groups) exceeds the PLN equivalent of €1 billion for the previous financial year; and/or
- (ii) the aggregate turnover generated on the territory of the Republic of Poland, of the companies involved (and their capital groups) exceeds the PLN equivalent of €50 million for the previous financial year.

The transactions specified are:

- a merger of two or more independent companies
- a takeover, through the acquisition or subscription of shares, or all or part of the assets, or otherwise, the direct or indirect acquisition of control over the whole or part of one or more companies by one or more companies
- the establishment of a jointly owned company by two or more companies
- the purchase of the other company's assets (the whole or a part of the company), if the turnover, generated in the territory of the Republic of Poland, by that property exceeds the PLN equivalent of €10 million during any of the last two financial years.

The President of UOKiK must render a decision clearing or prohibiting a notified merger within two months from the receipt of a completed notification, which means that this time limit does not include, among other things, the waiting time for

removing any defects or providing supplementary information. When making the decision, the President of UOKiK will apply the so-called “significant lessening of competition” test.

The task involves the planned merger being analysed in terms of its potential impeding effect on competition in the market, which is manifested, in particular, by creating or strengthening a dominant position on the market. A company has a “dominant position” if it is able to prevent effective competition on the relevant market by acting independently of other competitors, customers and consumers. There is a rebuttable presumption that if a company has more than a 40% share of the relevant market, it holds a dominant position.

Even if the President of UOKiK believes that a notifiable transaction would reduce competition to a material extent, he can nevertheless allow the transaction to proceed if he believes that the transaction will either contribute to economic development or technical progress or will otherwise have a favourable impact on the national economy. The President of UOKiK can also issue a conditional clearance in which it clears a transaction subject to the parties fulfilling certain conditions, for example, a condition that the entity (or more entities) disposes of certain assets.

The Act on Competition and Consumer Protection provides for the following exemptions from the notification obligation:

- the turnover of the target (and its subsidiaries) over which control is to be taken in the territory of Poland in each of the two preceding financial years did not exceed the PLN equivalent of €10 million
- the acquisition is by an investment entity of shares for the purpose of resale within a period not exceeding one year, subject to the condition that: (i) no rights in such shares will be exercised, apart from the right to dividend; or (ii) to the extent such rights are exercised, they are exercised exclusively for the purpose of the preparation for resale of such shares, company or assets in which shares are held
- an acquisition of shares effected for collateral purposes subject to the condition that no rights in such shares will be exercised, apart from the right to resell such shares
- an acquisition or takeover is carried out as part of bankruptcy proceedings of the target, unless the acquirer or a member of its capital group is a competitor of the target, or
- the acquirer and the target belong to the same capital group.

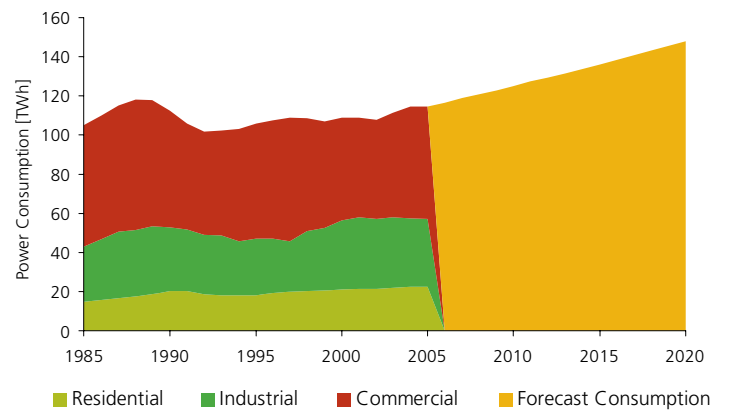
Country statistics

Supply and Demand balance

| Poland, Supply and Demand Balance, 2004-2005 | | | |
|--|----------------|----------------|---------------|
| GWh | 2004 | 2005 | CAGR |
| Gross Production | 140,734 | 140,559 | -0.1% |
| Nuclear | | | |
| Gas | 2,864 | 2,860 | |
| Coal | 128,989 | 128,829 | |
| Oil | 2,848 | 2,281 | |
| Hydro | 3,663 | 3,658 | |
| Renewables | 916 | 915 | |
| Other | 2,018 | 2,015 | |
| Imports | 5,300 | 5,887 | +11.1% |
| Exports | 14,600 | 16,569 | +13.5% |
| Distribution Losses | 16,614 | 15,200 | -8.5% |
| Total Supply | 129,420 | 131,246 | +1.4% |
| Demand | | | |
| Residential | 22,804 | 22,776 | -0.1% |
| Industrial | 34,577 | 34,534 | -0.1% |
| Commercial | 57,439 | 57,368 | -0.1% |
| Total Demand | 56,388 | 56,953 | -0.1% |

Source: Business Insights

End user demand, 1985 - 2020



Source: Business Insights Ltd

Russia

Overview

Russia has embarked on a programme to restructure and reform its mammoth electricity sector. It has plans to divest its electricity assets in certain areas while retaining majority control in others. There is a wholesale (so far partially) competitive market, and retail competition has also been implemented.

Sector analysis

Generation

52% of shares in RAO UES belong to the state – the rest are in the hands of other owners, both domestic and foreign. The generation sector has been organised into Wholesale Generation Companies (“OGKs”) and Territorial Generation Companies (“TGKs”). There are six OGKs which own large thermal power stations, while one OGK is responsible for hydro generation businesses, namely, HydroOGK. Four of the six OGKs are so far 100% subsidiaries of RAO UES, and part of the shares in the two others have recently already sold to private investors.

TGKs are a result of unbundling the generation business of vertically integrated regional power supply companies. There are 14 TGKs, which own medium-sized CHP plants.

According to the Federal Law “On the power sector” (“Federal Energy Law”) at least 50% plus one share in HydroOGK should be in the hands of the state, whereas the state should withdraw from the ownership of thermal generation (OGK and TGK) retaining only a minority stake in it.

In 2006, the Government approved a programme of constructing 5000 MW of new generation capacity under the so called Investment Guarantee Mechanism that to all intents and purposes is a conventional IPP scheme with a 10 year power purchase agreement (“PPA”). The firm was involved in the development of this scheme. Investors will be invited to tender for each site and a PPA will be concluded with the preferred bidder.

As of now, six sites have been designated in five different regions. 2850 MW of generating plant should be built at these sites. Two sites are in the Tyumen region, one in the Kuzbass region, one in the Tomsk region, one in Kaluga and one in Tula. In the Tyumen region one site is destined for a 200 MW CCGTs and the other one for CCGTs with a combined capacity of 600 MW. The other sites are either for CCGTs or coal fired plant. Currently other sites for plant with a combined capacity of 2150 MW are under discussion, awaiting Government approval.

RAO UES has embarked on a programme to sell its shares in a number of generation companies either to the public and/or to strategic investors. It has sold part of its share in OGK-5 to the public and part to Enel in an auction and OGK-3 to Norilsk Nickel Group.

It has also sold part of its shares to TGK-5 to IES Holdings (a Russian company).

It is preparing for sale of shares in OGK-4, OGK-3 and TGK-9. Each of these companies has substantial generation capacities – OGK-4 (8630MW); OGK-3 (6097MW) and TGK-9 (4700MW), with a combination of coal fired and gas fired plants. More details about the assets of these companies are available on request.

Wholesale

Before November 2003 the wholesale market was fully regulated, based on an annual energy production and consumption plan and tariffs fixed by the Federal Tariffs Service (“FTS”). In November 2003 (in May 2005 in Siberia) two newly designed sectors of the wholesale market were successfully launched: the sector of free trade and the sector of trade in deviations (real time). This structure of the wholesale market was in place until 1 September 2006.

The New Wholesale Energy and Capacity Market (“NOREM”) represents a combination of regulated bilateral (vesting) contracts and a fully competitive market. NOREM started to operate on 1 September 2006, immediately after the relevant Government decree €529 was signed.

Currently, the wholesale market operates in the two “competitive” areas – called price zones (European Russia including the Urals; Siberia) and in the “non-competitive” areas of the Far East where all energy is sold at regulated prices (tariffs). 90-95% of the energy produced in the areas is traded through the wholesale market.

NOREM contains three sectors, which are typical for many competitive energy markets:

- Bilateral contracts, including constantly decreasing in volumes vesting contracts with regulated prices
- Day ahead (spot) auctions
- A real-time balancing market.

From a structural point of view this corresponds fully to the target market design (based on bilateral contracts), as described later. The only notable deviation from it is the existence of the regulated bilateral (vesting) contracts intended to play the role

of a bridge between regulated and freely concluded bilateral contracts or in plain language preserve price regulation for some time to come.

The regulated bilateral (vesting) contracts came to replace the previously existing regulated sector and should eliminate the revenue (tariff) imbalance inherent in it. The system is designed so that with regard to total contractual amount (in all vesting contracts) a purchaser continues to pay his regulated tariff (called "indicative price") and a generator continues to receive his regulated tariff. In 2007 these generation tariffs are set by FTS while compiling the power balance for the corresponding year. Starting from 2008 the generation tariffs for the purposes of vesting contracts will be calculated by the way of 2007 tariffs' indexation. Tariff indexation formulas (FST decree No 348/12 dated 05 December 2006) take into account the forecast inflation index for the corresponding year, changes in fuel prices, water tax rates for hydro power stations, technological peculiarities of power production as well as other commitments the suppliers face according to the legislation, including payments for the services of the infrastructural organizations. Adjustments will be made to account for the gap between the forecasted indexes and their actual values.

Vesting contracts cover capacity and energy (traded separately). Each purchaser has vesting contracts with a number of generators, and each generator with a number of purchasers. The sums of capacity and energy covered by all the vesting contracts to which a purchaser is a party cover its consumption as per the FTS balance for 2007. The same is valid for the producers. For the energy (not capacity) amount in the vesting contracts, the "liberalization rate" set by the Government is applied. Starting from January 2007, 5% liberalisation rate is used for all energy consumption (and relevant production) except households, 0% for the households. Full liberalization (100% liberalisation rate) is planned for January 2011.

Hourly energy amounts under vesting contracts for each hour of the contract are set by the ATS by means of splitting the 2007 annual amounts on the basis of historical data on actual energy production and consumption in the preceding year. A purchaser has to pay for additional 3% of the hourly energy amounts to compensate for transmission losses. The ATS becomes a third party to a vesting contract, though it is not a party to the trade itself. The ATS fulfils administrative functions only (without charging additional payments). Its participation is necessary in cases where the purchaser unilaterally decides to reduce the contracted energy

amounts as well as to administer the system of payments and monitor the fulfillment of the terms of the vesting contracts.

In order to maintain payment discipline all the settlements related to vesting contracts are carried out through a non-commercial clearinghouse (Centre for Financial Settlements).

In 2007, nearly 5,000 vesting contracts have been signed. The basic principle of the vesting contracts is "take or pay". A supplier is obliged either to produce the contracted amount of energy himself or purchase it in a day-ahead market at competitive prices. Alternatively, he may enter into a free bilateral contract with another supplier who will cover the shortfalls. A purchaser is obliged to pay for the contracted amount regardless of whether he consumed it or not. If a purchaser's consumption is less than the contracted amount he sells the surplus at competitive prices through the day-ahead market (or bilateral contracts). If it is more – he has to purchase at competitive prices. For new market players there are two options - purchase energy in the day ahead market at competitive prices, or enter into a free bilateral contract.

Purchasers were (and still are) divided into two groups – so called "full" and "partial" participants. Full participants buy all energy in the wholesale market; partial participants buy no more than 30% (15% – since 2007) of their consumption in the wholesale market and the rest – in the retail market. Partial participation in the wholesale market is introduced due to the fact that a sizeable degree of cross subsidisation among different groups of retail customers still remains.

The ATS, the SO and the FGC play the role of commercial and technological market infrastructure organizations, similar to the situation in other countries. In order to be a wholesale market participant both purchasers and sellers have to comply with certain technical and legal requirements.

Transmission

The transmission assets (above 220kV) have been vested in the Federal Grid Company ("FGC"), which is at present 100% state owned through RAO UES. According to the Federal Energy Law, the State must own 75% plus one share in FGC.

The amounts of capacity and energy bought (sold) at delivery points located on synchronised with the RAO UES system interstate power lines with voltages higher than 35 kV have to be traded through the new wholesale market, the rest through the retail market.

In the new market NOREM, the mentioned amounts are divided into those that:

- relate to the fulfillment of interstate agreements on synchronous operations (related to synchronous operations, e.g. emergency support, provision of reserves, settlement of inadvertent energy transfers, etc.)
- relate to commercial contracts for delivery (purchase) of power (commercial amounts)
- include all energy and capacity related to synchronous operations is bought/sold at tariffs set by the FTS, including those bought/sold in the balancing market. All commercial amounts are bought/sold in the new market according to the rules common to all other participants and transactions.

System operation and Market Administrator

System operation is vested in SO, which is now a single organisation responsible for despatch both at the federal level and at regional level. According to the Federal Energy Law, the State must own 75% plus one share in the SO.

Distribution

The distribution sector has been largely restructured so that from the hitherto, vertically integrated electricity companies ("AO Energios"), the following have been established:

- 4 later regional Distribution Companies which will own the distribution assets of several neighbouring A Energios
- regional Distribution (Supply) Companies, and
- guaranteeing suppliers (suppliers of last resort).

The Retail Market Rules lay the foundation for the interaction between retail market participants, namely, Guaranteeing Suppliers (suppliers of last resort), competitive supply (retail) companies, small power producers, distribution companies and energy consumers. These Rules stipulate how retail market agreements are to be concluded and executed and contain a model Energy Supply Agreement for domestic consumers. The Guaranteeing Supplier becomes the main actor in the retail market, as it is obliged to enter into an agreement with any consumer in its area of activity requesting such an agreement. All the rest of energy suppliers (so called competitive suppliers) are free to enter into agreements with consumers at negotiated terms, that is, if there is no agreement on terms between the parties, the supply company is under no obligation vis-à-vis the consumer. If the consumer is not satisfied with his supply company he can turn to another supply company or the Guaranteeing Supplier at any time.

The Retail Market Rules prescribe that a Guaranteeing Supplier is not allowed to engage both in distribution and supply (retail) activities. This means that if a municipal undertaking that previously performed both of these functions is appointed as a Guaranteeing Supplier, it has to unbundle. If an organization that is not a wholesale market participant is appointed as a Guaranteeing Supplier, it has to become a wholesale market participant not later than 1 January 2008. If that is not done, the organization will lose the Guaranteeing Supplier status.

Initially, in 2007 about 90-95% of energy purchased from a Guaranteeing Supplier by retail consumers will be at regulated prices. The rest will be sold at free prices. The unregulated (free) retail prices are determined by a formula fixed in the Retail Market Rules: the wholesale market price + regulated infrastructural (the ATS, transmission and distribution, RAO UES) payments + the Guaranteeing supplier's surcharge. The information on the wholesale market prices is published by the ATS.

RAO UES intends to divest its interests in retail companies. It has already sold minority (49%) shares in seven retail companies for an aggregate amount of USD 24.6 million.

Wholesale and retail competition

Wholesale competition

Russia intends to introduce fully competitive market, which will primarily be a market in bilateral contracts between buyers and sellers. However scheduling and dispatch will be conducted as in a mandatory pool where sellers' offers and purchasers' bids are to be used as input into a security constrained optimisation algorithm that calculates day ahead volumes of production and consumption (day ahead schedules) and locational marginal prices ("LMPs"). The "day-ahead" market is to be augmented by a balancing market operated by the SO on the same principles, but based on information closer to real time than day-ahead. Bilateral contracts between sellers and purchasers are to be allowed, provided that the parties to such contracts pay the differential between their respective LMPs. A possibility to purchase point-to-point Financial Transmission Rights (FTRs) to hedge the LMP differentials is envisaged at some future stage.

For liberalizing trading in power, an Administrator of the Trading System (the ATS) has been established. This organisation incorporated in the form of a non-commercial partnership of market participants has been entrusted with day-ahead scheduling

of generation, settlement, dispute resolution and other functions typical for a market administrator, e.g. market monitoring.

Retail competition

Retail markets are local in nature, with a significant role of a local regulation, with retail companies, distribution companies and end-users as key players of these markets. However, all of them are subject to the same set of rules approved by the Federal Government.

The areas isolated from the Unified Energy System (UES) (of which there are seven in Russia) do not have wholesale markets, only retail ones.

Both the wholesale and retail power markets are currently operating under "transition period" legislation awaiting the Federal Energy Law coming into full force.

Regulation

The competent authorities

The two key authorities are the Federal Tariffs Service (FTS) and the Regional Regulators (RECs).

The FTS and RECs

With the advent of a competitive market the role of the regulatory bodies becomes different from that which they fulfilled previously. The FTS will continue to compile annual production and consumption plans and set tariffs until when the market becomes fully competitive and the institution of vesting contracts disappears entirely. This is supposed to happen in 2011. The connection and use of system tariffs charged by the Federal Grid Companies and Distribution Companies will continue to be regulated, possibly with the use of benchmarking techniques in the future. The FTS will also regulate the tariffs of the SO and the charges levied by the ATS. A certain role is reserved for the regulatory bodies in the approval of expansion plans submitted by all the infrastructure entities, namely the FGC, Distribution Companies and the SO.

Permits and consents

The process of setting up a new generation plant requires consents to be obtained from: (a) the local authorities; (b) agencies dealing with the protection of the environment; (c) the System Operator; (d) the local Distribution Company or the FGC

as the case may be; (e) approval of the design; and (f) the state agency overseeing construction and commissioning. In addition issues concerning acquisition of land have to be addressed.

Regulation of monopolies

In order to alleviate the risk of price manipulation, a system motivating the participants to submit offers based on marginal production costs has been introduced. Continuous monitoring of market prices is conducted both in the day ahead and the balancing market to reveal uncompetitive participant behavior. Where a significant price spike appears in the absence of objective, independent of the participant actions, offers are examined to check their compliance with maximum competitive prices, corresponding to maximum cost of production for a power plant of a specific type. Where the Federal Antimonopoly Service finds that a participant is abusing his monopoly position, this participant is "fined" through a reduction of his capacity payments.

The acquirers of a more than 25% shareholding in JSCs (a more than 1/3 ownership interest in LLC) which shareholding (ownership interest) subject to the acquisition is owned by the State must obtain approval of this deal from Russia's Federal Anti-Monopoly Service (FAS). An applicant should submit to FAS either an application for a prior approval or made post facto notification depending on the results of a merger control test. For acquisition of shares (ownership interest) the merger control test in Russia is based on assets based threshold and shareholding thresholds.

For commodity markets, merger clearance (either prior or post facto) must be obtained from FAS for the following transactions:

- acquisition of voting shares in a joint-stock company, if it results in a person (or group of persons) acquiring the right to control more than 25 % of such shares in circumstances where that person (or group of persons) did not previously control any voting shares or had less than 25 % of voting shares in the joint-stock company. This requirement does not apply to the initial distribution of shares between the founders upon first formation of a company
- acquisition of a participation interest in the charter capital of a limited liability company, if a person (or group of persons) acquires the right to control more than 1/3 of participation interest in the charter capital of such company in circumstances where that person (or group of persons) did not previously control any participation interest or had less

¹ The description given under this heading summarises all merger requirements existing in Russia applicable to mergers and acquisitions affecting the Russian commodity markets but it does not include financial services which are dealt with under competition law. The merger requirements were introduced very recently by the Russian law No 135-FZ On Protection of Competition, dated 26 July 2006 (the 'Competition Law') and have not yet been supported by respective subordinate legislation. Therefore, there is a possibility that the Federal Antimonopoly Service of Russia (the FAS) may introduce a new interpretation of certain merger requirements.

than 1/3 of participation interest in the charter capital of that company. This requirement shall not apply to initial founders of a limited liability company

- acquisition of a participation interest in the charter capital of a limited liability company by a person (or group of persons) holding less than 1/3 of participation interest and not more than 50 % of participation interest in the charter capital of the company, provided that such person (or group of persons) acquires the right to control more than 50 % of such participation interest
- acquisition of voting shares in a joint-stock company by a person (or group of persons) who has at least 25 % but not more than 50 % of voting shares in the joint-stock company, provided that such person (or group of persons) acquires the right to control more than 50 % of such voting shares
- acquisition of a participation interest in the charter capital of a limited liability company by a person (or group of persons) controlling at least 50 % but not more than 2/3 of participation interest in the charter capital of such company, provided that the person (or group of persons) acquires the right to control more than 2/3 of such participation interest
- acquisition of voting shares in a joint-stock company by a person (or group of persons) who controls at least 50 % but not more than 75 % of voting shares in the joint-stock company, provided that such person (or group of persons) acquires the right to control more than 75 % of such voting shares.

Any of the above specified transactions requires prior merger clearance, if:

- the book value of the acquirer's assets, the assets of the commercial entities belonging to the acquirer's group, the assets of the target company and those of the commercial entities belonging to its group, exceed more than 3 billion RUR (currently the equivalent of approximately US \$ 115 million)
- the aggregate income of the entities listed above from the sale of commodities during the last calendar year exceeds 6 billion RUR (currently the equivalent of approximately US \$ 231 million). (This threshold should be applied if the above assets-based threshold is not met)
- the aggregate value of the assets of the target company and those of the commercial entities belonging to its group exceeds 150 million RUR (currently the equivalent of approximately US \$ 5.7 million). Notably, this threshold is considered together with one of the two thresholds above.

Thus, if any of the two thresholds is met, but the aggregate value of the assets of the target (its group) is less than 150 million RUR no prior merger clearance is needed

- either the acquirer or the target or any entity belonging to the acquirer's or the target's group is entered onto the register of commercial entities (which is held by FAS) with a market share in excess of 35%. The FAS officials do not enrol foreign companies on the register.

As an alternative to prior approval, the Competition Law requires post facto notification of FAS on the above transactions. The post facto notification should be made within 45 calendar days once the deal has been closed.

The above-listed transactions must be notified to FAS, if:

- the book value of the acquirer's assets, the assets of commercial entities belonging to its group and the assets of a target company and those of the commercial entities belonging to its group exceeds more than 200 million RUR (currently the equivalent of approximately US \$ 7.7 million)
- the aggregate income of the entities listed above from the sale of commodities during the last calendar year exceeds more than 200 million RUR (currently the equivalent of approximately US \$ 7.7 million); this threshold should be applied if the above assets-based threshold is not met
- the value of the assets of a target company and those of the commercial entities belonging to its group exceeds 30 million RUR (currently the equivalent of approximately US \$ 1.2 million). This threshold is considered together with one of the two thresholds above. Thus, if either of the two thresholds is met, but the aggregate value of the assets of the target (its group) is less than 30 million RUR no post facto notification is needed.

The wording of the thresholds reflects, for the most part, the wording used in the Competition Law. Should you experience any difficulties in interpreting the Competition Law requirements we would be happy to help you.

An acquisition of a state owned shareholding (ownership interest) through an auction does not change the merger clearance requirements.

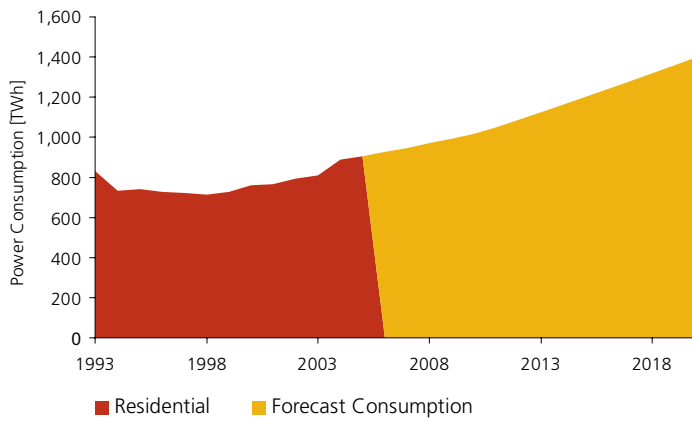
Country statistics

Supply and Demand balance

| Russia, Supply and Demand Balance, 2004-2005 | | | |
|--|---------|-----------|--------|
| GWh | 2004 | 2005 | CAGR |
| Gross Production | 971,630 | 1,010,495 | +4.0% |
| Imports | 14,900 | 16,800 | +12.8% |
| Exports | 24,000 | 24,500 | +2.1% |
| Distribution Losses | 73,511 | 97,773 | +33.0% |
| Total Supply | 913,019 | 929,522 | +1.8% |
| Total Demand | 889,019 | 905,022 | +1.8% |

Source: Business Insights

End user demand, 1993-2018



Source: Business Insights Ltd

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