

Challenges of liberalization. The case of Polish electricity and gas sectors

by

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Abstract

This paper applies the general insights of liberalization of the electricity and gas market to the market conditions of a particularly important new Member State in the EU, Poland. To this end the aim of this paper is to explain the Polish experience of liberalizing its energy market by reviewing those developments that produced its current shape. In fact there are two possible scenarios Polish policy makers can follow in liberalizing its energy sector. One would involve the UK approach that encompasses: ownership unbundling, less market concentration, less public ownership and more private capital in the industry. The second scenario follows the continental model: more concentration and vertical integration and more State or public ownership in the energy field (for instance, the French model). These two widely diverging approaches reflect different energy consumption patterns, energy mixes, sources of supply and natural resources of various countries. Having these differences in mind this research reviews developments that have produced the current state of liberalization of the electricity and gas sectors in Poland and discusses the prospects for further progress towards an integrated, competitive and liberalized

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European electricity and gas market in the light of the challenges that remain. These challenges include uneven unbundling, discriminatory third party access, insufficient independency of national regulator, consolidation and anti-competitive behaviour of incumbents or abuse of one's dominant position on the market.

Classifications and key words: electricity, gas, liberalization, competition, unbundling, third party access, regulation.

I. Introduction

An electricity and gas market fully open to competition is a unique mission, it is very hard to achieve, but certainly not impossible. Continued supply is crucial with respect to electricity, and for many customers, also gas. Undeniably, a guarantee of secure and reliable supplies of gas and electricity at reasonable prices constitutes an essential public service. However, the supply of energy is dependent on transmission and distribution infrastructure which is very costly to construct. Moreover, the fact that the return on investment (ROI) in networks, storage capacities or Liquefied Natural Gas (LNG) terminals is calculated on a long-terms basis often discourages potential private investors. The construction and operation of networks is thus left to natural monopolies which then have the incentive to use their dominant position, for instance, to deny access to infrastructure in order to slow down market opening. Independent regulation, which aims to secure non-discriminatory third party access to infrastructure, is therefore essential as a surrogate for competition in network activities. Finally, electricity and gas used to be supplied by only one, or very few, vertically integrated undertakings (VIU) controlling the entire electricity/gas distribution chain (from generation to supply) in almost all EU Member States. This model can be generally associated with high production costs and artificially low prices supplemented by cross-subsidization and State-subsidies. As a result, competition was absent and national markets segmented. Legislation, regulation and market-design are commonly associated with national governments, EU institutions, independent regulators, independent system operators and private interest groups. They should play a significant, if not the main, role in the development of liberalized and competitive national electricity and gas markets.

The liberalization of the electricity and gas sectors across the EU constitutes a major part of its Internal Energy Market strategy whereby the rules of a single market are extended to network industries. Alongside transport, telecoms and postal services, the energy sector is part of the general EU liberalization policy, which started in the mid 1980s and lead to the issuance of a substantial

amount of secondary legislation. Especially relevant in this context are the 2003 Directive concerning common rules for the internal market in electricity (Electricity Directive) and the 2003 Directive concerning common rules on the internal market in natural gas (Gas Directive)¹. The purpose of these two acts was to restructure the European electricity and gas sectors by: unbundling vertically integrated activities of electricity and gas conglomerates; reducing their horizontal concentration; introducing competition in wholesale energy generation markets and retail supply; monitoring transmission and distribution networks and; establishing independent regulators.

The main rules on internal energy markets contained in the directives were transposed into the Polish Energy Act on 3 May 2005². Unfortunately, some concerns remain about the compatibility of some of the domestic provisions with the directives. For example, the existing gas **transmission system operator** (TSO) does not seem to be properly unbundled yet. So far, it focuses on adapting its operations to Poland's relatively inefficient production and transmission structure, rather than on modifying its structure, which would in turn facilitate an open and competitive market. **Distribution system operators** (DSOs) in both electricity and gas have also not been functionally and legally unbundled to the required degree. This gives them the means to discriminate against other market players, especially new entrants, in favor of their own supply companies. Another source of constraint lies in Polish regulation itself. Until the mid 1990s, regulation was a foreign concept for Polish organizational and legal theory and practice. Polish policy-makers saw regulation as an unwanted development, considering independent regulators to be a threat to their authority.

Moreover, the circumstances surrounding the establishment of a Polish energy regulator substantially differed from the creation of its telecoms counterpart. In the mid 1990s, little reason existed to set up a telecoms authority since the sector was monopolised by the State owned landline operator. With the growth of mobile phones and the privatization of the incumbent, the need to establish a sector-specific regulator became clear. According to Majone and Surdej, Poland needed a telecoms regulator in order to control the incumbent and to ensure non-discriminatory conditions of third

¹ Directive 2003/54/EC of the European Parliament and of the Council of 26 June 2003 concerning common rules for the internal market in electricity (OJ [2003] L 176/37); Directive 2003/55/EC of the European Parliament and of the Council of 26 June 2003 concerning common rules for the internal market in natural gas (OJ [2003] L 176/57).

² Journal of Laws 2005, No. 62, item 552). The Energy Act regulates rules determining national energy policy, rules and conditions of supply and consumption of energy, fuels and heat, as well as rules and conditions of operation of energy companies and indicates the authorities responsible for matters relating to energy and fuels.

party access to its facilities³. By contrast, the need to regulate the energy sector did not arise due to technical improvements. Instead, it resulted from planned organizational and ownership changes (privatization) of the industry as well as new economic and organizational theories, which helped demonstrate that the energy market could be divided into a competitive and a monopolistic segment.

II. Polish energy market in a nutshell

Although the Polish energy sector is not fully liberalized yet, every household is theoretically free to choose from which producer or supplier it wishes to purchase its energy. At the time of Poland's EU accession, 51% of its energy market was liberalized⁴. In reality however, the Polish energy sector is still dominated by its former monopolists. The electricity market is dominated by four conglomerates controlling the entire electricity distribution chain from generation to supply. The situation of the gas sector is similar. Polskie Górnictwo Naftowe i Gazownictwo S.A. (PGNiG SA), established in 1976 as a fully vertically integrated State owned monopoly responsible for the entire gas distribution chain, continues to be the largest, as well as the only Polish, company operating in oil and gas exploration⁵, production, processing, storage, and trade⁶.

Due to the requirements set out in the Electricity and Gas Directives in relation to the unbundling of VIUs⁷ (as transposed into Article 9d of the Polish Energy Act), transmission has been separated, legally and functionally⁸, from the competitive activities of energy generation and supply. Nevertheless, PGNiG

³ See G. Majone, A. Surdej, "Regulatory Agencies in Economic Governance. The Polish case in a comparative perspective" (2006) 5 *KICES working papers*. Koszalin Institute of Comparative Administrative Studies 27.

⁴ M. Olejnik, "National Approaches to implementation – Poland" [in:] P. Cameron (ed.), *Legal Aspects of EU Energy Regulation. Implementing the New Directives on Electricity and Gas Across Europe*, Oxford 2005, p. 405.

⁵ Exploration and production operations of the PGNiG SA are being conducted on the Mining and Geological Laws, and as such are not covered by the Energy Act.

⁶ See PGNiG SA web page at: www.pgnig.pl

⁷ See Article 9d of the Energy Act (Journal of Laws 2006 No. 89, item 625), as amended by the Act 2006 which transpose Directives. According to this Article there has to be a separation between the management of the TSO or DSO on the one hand and the management structure of the integrated energy undertakings on the other.

⁸ The core of functional or managerial unbundling is that system operators have effective and independent decision-making rights as well as independent management structures, especially regarding access to the networks. Legal unbundling, in contrast, requires that a separate legal undertaking be created, a legal entity or personality in which all activities different from

SA is still involved in transmission through its subsidiary, the TSO Gaz System. PGNiG SA is also involved in the distribution and supply of gas, a fact that effectively blocks competition in this market in violation of the Gas Directive.

Moreover, Polish authorities have delayed the restructuring of the gas market choosing instead to focus on electricity. The Ministry of Economy clearly stated that the liberalization of the gas market will be postponed until 2010⁹, a delay not permitted by the Gas Directive. So far, Poland has not informed the Commission about its plans concerning its gas market for the potentially transitory period leading up to 2010. The Ministry has merely asserted that Poland wants to diversify its gas supplies before addressing the issue of making its gas market more competitive. This claim is mistaken however, since competition facilitates the diversification of supplies and thus, enhances the security of supply.

With regard to unbundling, Article 3²⁴–3²⁵ of the Energy Act distinguishes between TSOs and DSOs. Article 3²⁶–3²⁸ concerns gas storage operators, LNG operators and combined operators. The role of system operators is central to electricity and gas markets. They are the only entities permitted to carry out transmission, distribution or storage activities – they must obtain a license from the Energy Regulatory Office (Urząd Regulacji Energetyki - URE), to carry out their business¹⁰. TSOs are mainly responsible for the transmission¹¹ of energy in Poland, while DSOs are responsible for the transmission and distribution¹² in stipulated regions of Poland, as indicated in their licenses.

System operators are obliged to grant access to their networks to all suppliers and traders, based on third party access rules set out in the Electricity and Gas Directives. Article 9 of the Polish Energy Act delegates the power to issue access tariff decrees to the Ministry responsible for the economy. Consequently, system operators must grant access in accordance with the

generation and supply (namely, transmission or distribution) are conducted. For more on this see B. Nowak, *Wewnętrzny Rynek Energii w Unii Europejskiej*, Warszawa 2009.

⁹ See Commissions Staff Working Document. Implementation Report – SEC(2006) 1709, page 136. Accompanying document to the Communication from the Commission to the Council and the European Parliament – Prospects for the internal gas and electricity market – COM(2006) 841 final. Available at: http://ec.europa.eu/energy/energy_policy/doc/10_internal_market_country_reviews_en.pdf

¹⁰ See Articles 32–43 of the Energy Act.

¹¹ Total number of electricity transmission networks (750 kV-only for connecting Polish electricity system with Ukraine, currently not used, 400 kV and 220 kV) in Poland is counted to be 13 thousands km. Additionally due to insufficiency in capacity and technological developments the distribution networks are used for the transmission purposes that is 110 kV lines, estimated at 32,5 thousands km. Transmission gas networks amount to 18,6 thousands km. See Program Operacyjny Infrastruktura i Środowisko, Warszawa 29 listopada 2006; p.4.

¹² Distribution electricity networks lower than 110 kV amount to 705 thousands km. Distribution gas networks amount to 123 thousands km.

general terms and tariffs approved by URE concerning the sale, transmission or distribution agreements between transmission/distribution operators and suppliers or traders. In the transmission segment, system operators themselves set tariffs; in the distribution segment, which is not really unbundled, vertically integrated distribution companies set their own tariffs. System operators can refuse access but only under certain, justified conditions such as serious financial or technical inadequacies or issues relating to the security of supply. Every refusal must be reasoned. The regulator reviews refusals acting in the capacity as a dispute-settlement body¹³. System operators are responsible for the security and condition of the electricity and gas networks¹⁴.

III. Unbundling of transmission system operators

Poland has established two TSOs – one for the electricity market (PSE-Operator) and one for gas (Gaz-System). The directives did not envisage derogation periods or exemptions from the unbundling requirements for TSOs. PSE-Operator was unbundled legally and functionally on 1 July 2004 by its parent company PSE SA (currently part of Polska Grupa Energetyczna – PGE). Gaz-System, the only gas TSO in Poland, was established on 16 April 2004 by its parent company PGNiG SA. Originally, 100% of its shares were held by its parent company. However, on 28 April 2005, PGNiG SA donated them to the Polish Ministry of Treasury.¹⁵ As a result, the Treasury maintains direct control over the natural gas transmission system in Poland, even though around 40% of the transmission networks and other connected facilities is still owned by PGNiG SA¹⁶. However, PGNiG SA is effectively also controlled by the Treasury, which holds 85% of its shares. Gaz-System has been legally unbundled since 1 July 2005.

To ensure competition, market opening and the proper functioning of the European internal energy market, system operators must have effective and independent decision-making rights as well as independent management structures, especially with respect to network access. In other words, system

¹³ Article 8 of the Energy Act.

¹⁴ Secure and proper maintenance involves: the ongoing long-term operational security of the system, the use, maintenance and repair and necessary expansion of the distribution or transmission networks, including connections to other gas or electricity systems. See for instance Article 3²⁴ and 3²⁵ of the Polish Energy Act.

¹⁵ For more on this see Gaz-System web page at: <http://www.gaz-system.pl/page?mid=10>

¹⁶ The 60 % has been recently donated through the Ministry of Treasury to the Gaz-System. See for more on this on portal CIRE.PL - *Gaz System odkupi gazociagi?* Available at: <http://www.cire.pl/item,29628,1.html>

operators should be independent from other activities not directly related to transmission or distribution. This is of particular significance to Poland where Gaz-System leases, rather than owns, the entire network infrastructure. This arrangement effectively makes the TSO an affiliate of PGNiG SA even though they were theoretically unbundled both in the legal and functional sense. The following case study will demonstrate that having VIUs present in the supply and/or generation chain as well as directly or indirectly involved in transmission, raises serious doubts about their non-discriminatory behavior.

At the end of 2006, Gaz-System denied pipeline access to the trading company Emfesz Polska (Hungarian origin). Access was needed in this case to fulfil Emfesz's contractual obligations to transport 150 million cubic meters of gas from the Polish border to the largest Polish fertilizer producer (ZA Pulawy). The grounds for the denial were vague. Gaz-System claimed, in favour of PGNiG SA, that Emfesz did not have adequate storage capacity in Poland¹⁷ in order to secure trade (all storage belongs to PGNiG SA). Moreover, according to PGNiG SA, it needed the entire Polish storage capacity for its own operation¹⁸. As a result, Emfesz lodged a complaint to the Polish Office of Competition and Consumer Protection (Urząd Ochrony Konkurencji i Konsumenta, UOKiK). However, the UOKiK President upheld the decision of Gaz-System. Emfesz took the case to the EU and is now awaiting decision. The Emfesz case highlights several important legal issues concerning the Polish energy sector.

First, access to storage is regulated according to Article 19 of the Gas Directive, stating that access procedures shall operate in accordance with objective, transparent and non-discriminatory criteria (Article 19(2)). Since there is no need to un-bundle storage (only separation of accounts), PGNiG is left in charge of the entire Polish storage capacity rather than transferring it to TSOs (be it Gaz-System or other independent storage operators). In light of PGNiG's dominant position, Emfesz has not been able to gain access. This fact might constitute a breach of Article 19 of the Gas Directive. PGNiG disagreed, claiming that it needed the entire available capacity for its own use. In fact, it saw the existing capacity as indispensable for its own operations and, since it was very limited, it claimed that the existing Polish storage capacity was not sufficient for sharing.

¹⁷ Recently Emfesz has found another solution to the obstacles set forth by the PGNiG. Namely the company had bought underground gas resources (Antonin in Poland) of approximately 120 million cubic meters of which 80 million cubic meters has been already exploited. Emfesz after exploiting the remaining 40 million cubic meters, plans to use the underground resources as the gas storage facilities. For more on this see "Emfesz zarzucił w Polsce mocną kotwicę" – available at portal CIRE: <http://www.cire.pl/item,29706,1.html>

¹⁸ See "New Gas Reserve Act gives PGNIG even stronger control over the Polish market" Gas Matters, May 2007, p. 18, Platts.

In addition, PGNiG argues that it cannot make its storage capacity available to third parties due to the Act on fuel reserves¹⁹, which forces the company to store larger quantities of gas in order to secure an adequate reserve in case of national emergencies. The Act requires every trading company that annually supplies above 50 million cubic meters of imported gas, to have a storage capacity in Poland and to maintain a 30-day reserve of gas. Companies that import less than 50 million cubic meters per year and have less than 100,000 customers are exempt from this requirement. Each year, PGNiG produces around 3.9 billion cubic meters of gas and imports around 7.9 billion cubic meters from Russia. At present, its storage capacity is only about 2 billion cubic meters. If PGNiG's argument was accepted, one would have to ask: Why have the Polish authorities adopted the Act on fuel reserves in the first place (with the aim to store gas on Polish territory) if it was clear that it would become a dead law due to the lack of storage capacity. In fact, even though PGNiG already controlled around 95% of the Polish gas market, the Act on fuel reserves made it possible for PGNiG to also control its competitors, for instance, by denying access to storage.

Second, the Emfesz case highlights also the fact that a denial of access to the transmission system may constitute a breach of Article 1(1) of the gas-regulation²⁰ (which states: "This Regulation aims at setting non-discriminatory rules for access conditions to natural gas transmission systems (...)"). Thus, Gaz-System's denial of system access constitutes discriminatory behaviour on the part of a TSO, acting in favour of its parent company (PGNiG SA) which is, in turn, the main gas trader in Poland.

Third, it might be inferred that the behaviour of Gaz-System indicates that it was informally granted preferential capacity for cross-border transmission and storage of gas (as the only gas TSO). If that was true, Poland would be in violation of the ECJ Judgment of 7 June 2005(C-17/03)²¹ which deems preferential access to historical long-term supply contracts and capacity reservations contracts to be discriminatory and thus, in violation of Directive 2003/54/EC and Regulation 1228/2003. Although this judgement concerns electricity, it could be easily applied to contracts granting preferential transmission, distribution and storage in other segments of the energy sector – in the case at hand, natural gas. If so, Poland would be in violation of Directive 2003/55/EC and Regulation 1775/2005. Still, as a dominant market

¹⁹ Act from 16 February 2007 on Reserves of Oil, Oil Products, Natural Gas and on Procedures in Case of Emergency in Security of Fuel Supply and Disturbance on Oil Market (Journal of Laws No. 52, item 343).

²⁰ Regulation (EC) No. 1775/2005 of the European Parliament and Council of 28 September 2005 on conditions for access to the natural gas transmission networks, OJ [2005] L 289/1.

²¹ OJ [2005] C 182/2.

player, Gaz-System may argue that it has denied access to Emfesz because it must fulfil its public service obligations by protecting the security of supply or because it was concerned about the economic and financial difficulties associated with take-or-pay contracts. However, such refusal would be subject to derogation by the competent national regulatory authority as well as confirmation of the Commission, neither of which took place in this case. Moreover, it is hard to believe that supplying 150 million cubic meters of gas to a single company would threaten the security of the nation's supply.

Finally, PGNiG, or more precisely, the Ministry of Treasure as its owner, might be thought to have breached Article 31 EC. Under this Article, Member States are obliged to intervene to ensure that State monopolies of a commercial nature do not discriminate against companies from other EU Member States regarding the conditions under which goods are bought and sold. In a case comparable to the above, the Commission issued a formal request under Article 226 EC asking Malta to intervene in the actions of its monopoly over the import, storage and wholesale of petroleum products. Malta, according to Commissioner Kroes, had been maintaining discriminatory measures favouring its own commercial state monopoly, which blocked potential new entrants from entering Malta's wholesale petroleum market²².

The fact that suppliers must negotiate with their competitors in order to contract their storage needs must be seen as a serious barrier for new entrants, undermining confidence in the market. As a result, even though it is not necessary to un-bundle storage, an obligation to separate storage operators would certainly enable competitors and regulators to verify whether all available storage capacity is offered on the market on transparent terms.

In addition to its legal consequences, the Emfesz case has political implications. Polish authorities oppose liberalizing the gas sector because doing so will boost the prices of subsidised gas and leave the Polish gas market open to influences by companies such as Emfesz, which has close ties to the Russian companies Gazprom and RosUkroEnergo. This concern might be partly eliminated by the third country clause – an amendment to the Electricity and Gas Directives contained in the third legislative package on EU internal electricity & gas markets. The package contains safeguards to ensure that in the event that companies from third countries wish to acquire a significant interest, or even control, over an EU network, they will have to clearly and unequivocally comply with the same unbundling requirements as EU companies. The Commission can intervene where a purchaser cannot

²² For more on this see IP/07/958 from June 2007 on Commission requests Malta to adjust import monopoly for petroleum products. Available at: <http://europa.eu/rapid/pressReleasesAction.do?reference=IP/07/958&format=HTML&aged=1&language=EN&guiLanguage=en>

demonstrate both its direct and indirect independence from supply and generation activities.

Even when unbundling is conducted with regard to independent decision-making, or separate accounting and bookkeeping procedures, the threat remains that a TSO will remain informally dependent on its parent company. Experience shows that three types of problems arise where a TSO/DSO forms part of a VIU. First, system operators often treat their affiliated companies better than competing third parties, for instance, by using network assets to make entry more difficult for competitors. Second, non-discriminatory access to information cannot be guaranteed since there is no effective tool to prevent a TSO/DSO from releasing sensitive market information to the generation or supply branch of a VIU. Third, investment incentives within VIU are distorted since vertically integrated system operators have no reason to develop their network in the interests of all market players. Such situation has a negative influence on the competitiveness of the Polish energy sector as well as its security of supply, especially in terms of infrastructure. Therefore, ownership unbundling seems to be the best solution to end discriminatory practices. Ownership unbundling should give rise to a situation where the same person (e.g. a pension fund) can only hold non-controlling minority interests (for instance up to 10% of shares) in a TSO/DSO and a supply undertaking. Moreover, minority shareholders should not be able to hold blocking rights in both undertakings nor appoint members of their managerial boards nor have a representative in the boards of both entities. This way, the inherent conflict of interests would diminish.

However, as a key amendment proposed in the Commission's third energy package, ownership unbundling remains a controversial issue. According to the Commission and Member States such as the UK and the Netherlands, the most radical form of ownership unbundling would increase competition and clear the path for a greater level of sustainability and supply security²³. On the other hand, ownership unbundling is strongly opposed by the affected companies, such as E.ON and RWE or EDF and GDF, as well as by Germany and France²⁴. These two countries, in light of the specific structure and strong

²³ For more on this see third legislative package

²⁴ In fact the Commission's proposal of ownership unbundling has been criticized by 8 countries: France, Germany, Austria, Bulgaria, Latvia, Luxembourg, Slovakia and Greece. The 8 countries in a letter to the European Commission and the chairwomen of the European Parliament's ITRE committee published in January 2008 (for more on this see Goldberg S., "Recent developments in the European Union energy sector" (2008) *European Energy Review* published by Herbert Smith LLP in association with Gleiss Lutz and Stibbe) gave several main reasons for their opposition to ownership unbundling. They argue that ownership unbundling: i) may not be compatible with the relevant constitutional laws and the free movement of capital across the EU, ii) does not respect the principle of proportionality as they argue other solutions

national orientation of their energy sectors, have chosen to advocate a third way on ownership unbundling – an independent system operator – sometimes referred to as the Scottish model. In Scotland, the two dominant energy companies continue to own electricity infrastructure but the transmission lines are leased and run by National Grid, an independent group that runs the infrastructure of UK's gas and electricity networks. This model could offer a compromise between those calling for big energy groups to be carved up and those advocating less radical action such as France or Germany.

IV. Unbundling of distribution system operators

The situation in the distribution segment of the Polish energy sector is more complicated than in transmission. Distribution companies are dominant in their respective geographic regions. New traders occasionally enter the market but they are generally linked to one of the main generators. According to Polish officials, DSOs have been functionally and legally unbundled. In reality, most DSOs are part of distribution supply companies (which have no production/generation capacity, though most of them are linked to major electricity generating companies). Only recently has a moderate change in that structure appeared – there are now fourteen electricity and six gas distribution companies, though most of them still function as DSOs and supply entities.

In the gas market, all six distribution companies are subsidiaries of PGNiG SA. The latter also largely controls the supply (sales) of gas to end-users, making it able to take actions against a competitive market. In addition, Polish authorities are delaying the liberalization of the gas sector until after the restructuring of the electricity sector. However, since the Commission did not foresee such a transitional period for the gas sector, it might yet start infringement proceedings against Poland under Article 226 TEU for the violation of the provisions of the Gas Directive.

From the six gas distribution companies (dolnośląska, górnośląska, karpacka, mazowiecka, pomorska i wielkopolska), only one sales entity (Oddział Handlowy PGNiG) has been actually unbundled as of 1 July 2007. Still, even this company remains under the supervision of its mother company

are available; iii) is not sufficient and appropriate tool to deliver the opening of the European markets and to reach objective of guaranteeing an adequate level of investment in the networks and fostering the integration of the internal market, iv) generates negative social consequences, although not specified what kind of; and v) will not have clear and positive consequences for grid investments and energy prices, as these are determined by other factors according to the eight, although again not specified what kind of factors.

PGNiG SA. In theory, the six existing distribution companies became DSOs strongly connected to PGNiG SA. However, why was only one sales entity unbundled so far and why has it been placed under PGNiG supervision? Moreover, the six new DSOs are controlled by PGNiG SA, an arrangement that is anti-competitive and incompatible with the unbundling requirements of the Gas Directive. It is hard to believe that the Commission will overlook the fact that the distribution and sales segments of the Polish gas market, even though theoretically unbundled, are in practice still under the supervision and command of a single VIC.

In comparison to the gas market, the distribution segment of the electricity market is more competitive. However, the level of dominance of PGE is still significant. Of the fourteen electricity distribution companies, only two (RWE STOEN and GZE SA²⁵) are owned by foreign capital. The remaining twelve are to some degree dependent on the Polish Treasury and the former monopolist. In light of the derogation periods provided in the Electricity Directive (with respect to legal unbundling and the under-100,000 customer clause), it is possible to have distribution companies operate as both supply companies and DSOs. This solution has however negative consequences for market participants because it creates the impression that the interest of the supply company is convergent with the interests of DSOs. Such convergence increases the possibility of discrimination against access-seeking third parties, which, in turn, reduces competition.

Furthermore, the Polish electricity market is currently in a state of transition with the management of the distribution companies often also responsible for the management of supply and distribution (network) activities. No separate premises or business structures – one for the DSO and another for the supply company – exist. Moreover, all distribution companies in Poland supply more than 100,000 customers in both the electricity as well as gas market. Thus, none meets the exception clause set in the Electricity Directive (less than 100,000 customers) making it possible to postpone functional unbundling. All this might suggest that Poland has not actually managed to functionally un-bundle its electricity market. If so, that would suggest a violation of EU laws.

Not surprisingly, the European Commission opened infringement proceedings against Poland in April 2006²⁶. In its Letter of Formal Notice, the Commission stated that Poland had either not begun legally unbundling or had not

²⁵ GZE SA (76,4% owned by Vattenfall) currently has been unbundled and the following entities have been created: Vattenfall Distribution Poland (GZE SA), Vattenfall Sales Poland (GZE Kontakt) and Vattenfall Heat Poland (EW SA).

²⁶ See Memo/06/152 Infringement procedures opened in the gas and electricity market sector, by Member States. Brussels, 4 April 2006, and “Polska nie przestrzega prawa unijnego” *Gazeta Prawna*, 19.12.2006.

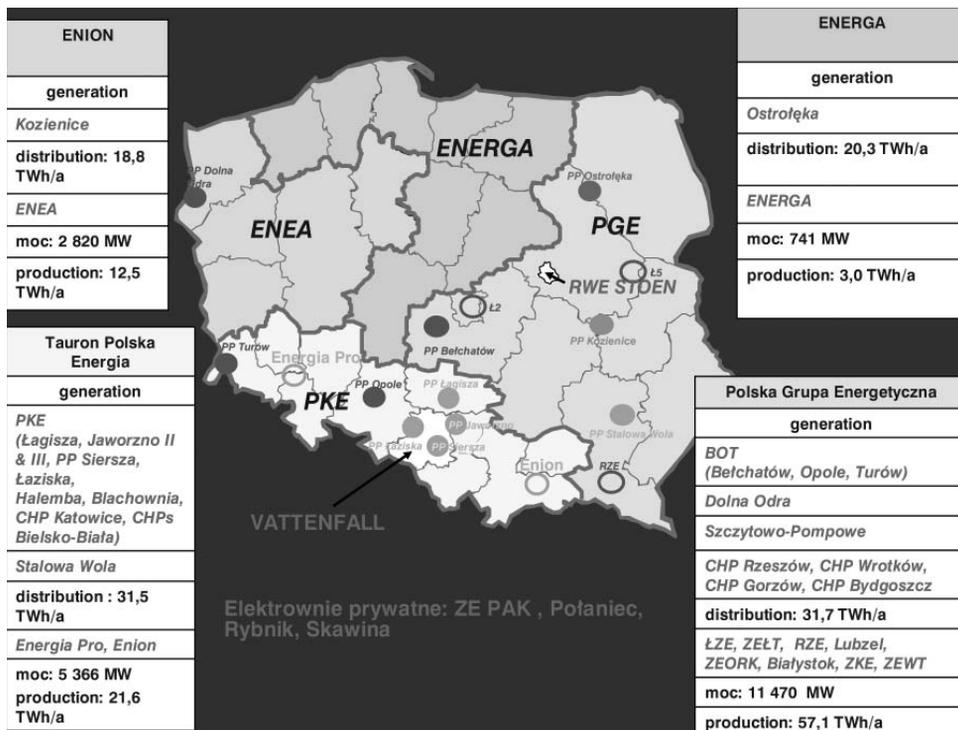
sufficiently unbundled its DSOs in the gas and electricity market. Additionally, the Commission claimed that Poland did not notify its public service obligations in the electricity and gas markets and also maintained preferential access for some historical contracts in relation to electricity. The Commission decided on 18 September 2008 to send a reasoned opinion to Poland concerning the failure to fully implement the Gas Directive²⁷ Since some of its provisions were indeed not transposed into the Polish legal system. The Commission decided however to limit the scope of its reasoned opinion to Poland's failure to designate a storage system operator. A reasoned opinion is the last step of the infringement procedure before referral to the Court of Justice.

Several additional problems arise from the "Program for the Polish electro-energy sector" policy adopted in 2006 by the Council of Ministers. On its basis, electricity distribution companies with network assets were grouped together with generators. As a result, four new energy giants were established. (i) The first vertically integrated conglomerate was set up under the name Polish Energy Group (Polska Grupa Energetyczna, PGE). It was created primarily on the basis of PSE SA, with an additional 85% stake of the largest Polish electricity generator (BOT Górnictwo i Energetyka SA), which was in turn made up of three electricity plants (Bełchatów, Opole, Turów) and two coalmines. Added was also: PGE-Energia SA, made up of a generation company (Zespół Elektrowni Dolna Odra) and four combined heat and power plants (CHP Rzeszów, CHP Wrotków, CHP Gorzów, and CHP Bydgoszcz) as well as eight distribution companies operating in the east and south of Poland (Łódzki Zakład Energetyczny SA, Zakład Energetyczny Łódź-Teren SA, Zakład Energetyczny Warszawa-Teren SA, Lubelskie Zakłady Energetyczne LUBZEL SA, Zakład Energetyczny Białystok SA, Rzeszowski Zakład Energetyczny SA, Zakłady Energetyczne Okręgu Radomsko-Kieleckiego SA, and i Zamojska Korporacja Energetyczna SA). (ii) The second conglomerate was named Tauron Polska Energia. It was established by merging Południowy Koncern Energetyczny (made up of five power plants, two CHP plants and two coal mines) with an electricity generator (Stalowa Wola) and two distribution companies (ENION and ENERGIA-PRO). (iii) The third energy giant, ENERGA, contains three power plants (Zespół Elektrowni, PAK, and Ostrołęka) and the distribution company Energia (formerly the group G-8 operating in northern Poland). (iv) Finally, the fourth conglomerate, ENEA, combined an electricity generator (Kozienice) and a distribution company (Enea).

Chart 1 identifies the shares of the four VIC and the regions in which they operate in Poland.

²⁷ IP/08/1374 Internal market in natural gas: the Commission sends reasoned opinion to Poland, Brussels, 18 September 2008.

Chart 1. Consolidation of the electricity sector in Poland.



Source: Polish Energy Regulatory Office (Urząd Regulacji Energetyki, URE)

The creation of the energy giants might have been a good idea in theory, assuming that they would compete with each other on the domestic market and, potentially, also externally. In practice however, the compatibility of this change is put in doubt in light of the provisions of the Electricity Directive, as transposed into the Polish legal system, unless a number of legal issues are considered.

The main problem associated with this reshuffle surrounds the issue of unbundling and, in particular, the need to ensure that generation and supply are separated from distribution and transmission. In other words, the conglomerate PGE would have to separate its network activities from its supply activities, while its eight distribution companies would have to become supply companies only rather than DOSs. Alternatively, they would have to divest their supply activities and become system operators only. For example, Zakład Energetyczny Warszawa-Teren SA does not currently fulfil the unbundling requirements. The company engages in generation, distribution and supply of electricity and heating. Moreover, it has around 815,000 customers and as such, it does not qualify for the “less-than-100,000-customer” derogation from the

unbundling requirement set out in the Electricity Directive. Other distribution companies from other conglomerates, such as ENION and ENERGIA-PRO, are in a similar position. Moreover, even though the unbundling requirement had not been fulfilled at that time, in late 2007, URE granted a distribution activities concession to all eight of PEG's distribution companies²⁸. Was URE's decision based on political considerations or was it a naïve wish of the regulator hoping that the companies would have unbundled by 1 July 2007?

It is doubtful whether the consolidation of the energy sector under State auspices is the correct choice. In Poland, consolidation through administrative methods is a political, rather than a market-oriented, solution. It goes against the Commission's ambitions to liberalize the continent's energy markets, to offer consumers more choice and to lower gas and electricity bills. Whenever politicians intervene in the mechanism of the free market, they jeopardize its overall long-term economic outcome. That has certainly been the case in Poland. The Polish Government might not have enough human and financial resources to equally equip all four of its new energy giants in order to create potentially competitive players on the EU market. A general scarcity of capital and resources in different branches of the national economy might also negatively affect the energy sectors. In addition, domestic consolidation by administrative means might bring about either of two possible outcomes. It may have a positive impact on the conglomerates, or at least on some of their parts, by strengthening poorly performing companies within the group. In other words, their well performing elements might act as leverage for their weak elements. However, the opposite might be true whereby the poorly performing companies might slow down the development of the strong ones, thus lowering the value and competitiveness of the group overall. This would, in turn, lower the overall competitiveness of the group in the context of the internal market.

Consolidation might indeed lead to greater cost savings or lower energy prices for consumers but only under the assumption that the group would become more efficient thanks to internal restructuring and better transparency. In this regard, privatization is the best route: consolidation makes sense only when accompanied by a sell of parts of the energy companies. At least partial privatisation would generate the capital and achieve the internal corporate resilience necessary to compete on EU markets. In defence of the energy companies, one might argue that the global financial crisis in general, and skyrocketing prices of wholesale gas and coal in particular has put them under great strain. In fact, it might have left them with no choice at all but to pass on their increasing costs to customers as well we to consolidate to increase

²⁸ See "Cztery firmy bez wydzielonej dystrybucji prądu", *Gazeta Prawna*, 1 June 2007. Available also at: <http://www.cire.pl/item,27919,1.html>

capitalization. Consolidation might indeed enable them to weather the present crisis. In the long run however, it may prove to have a harmful influence on the competitiveness of the Polish energy sector.

V. Energy market regulation and third party access

Regulation is commonly traced back to US industrial development and, in particular, to the railroad industry. Between 1840 and 1940, many independent agencies emerged whose members were appointed by the US President. The US President would not normally revoke these appointees before the end of their term in light of the concerns that presidential powers would grow excessively to the point of threatening the constitutional balance of power²⁹. However, the idea of sector-specific regulation was not exclusive to the US. Its roots can also be traced back 19th Century England where the Parliament created an independent railway commission with limited legislative, rather than exclusively administrative, powers.

In contrast, the European continental model of regulation has not been burdened by the problem of a “checks and balances” system so important in the UK and the US³⁰. Regulatory authorities were historically established so as to be functionally independent from political influences of presidents, prime ministers or ministers. They were intended to be impartial decision-making bodies without raising major constitutional concerns. However, in most EU countries, explicit constitutional provisions seem to exclude the possibility of establishing administrative bodies such as regulators not directly linked to the government or to a specific minister. For example, Article 146(3) of the Constitution of the Republic of Poland states that the Council of Ministers directs the activities of public administration. Similarly, the 1958 French Constitution is based on the idea that public administration is hierarchically subordinated to a Minister or to the Prime Minister. Article 20(2) of the French Constitution states that the government shall have at its disposal the apparatus of public administration. Article 20(3) notes that the government will answer to the French Parliament for its own actions as well as for the acts of its public administrators. Article 21 further prescribes that the Prime Minister must direct the activities of the government. It might be concluded, that the French Constitution prohibits the creation of independent regulatory

²⁹ On development of regulation see more G. Majone, *Regulating Europe*, Routledge, London 1996, p. 10.

³⁰ For more on the history of regulation in Europe see W. Hoff, *Polish energy regulation in its European setting*, LKAEM Publishing House, Warszawa 2007, p. 86–88.

agencies. However, the French Conseil Constitutionnel ruled in 1986 that Article 21 of the Constitution does not stand in the way of the Parliament assigning responsibility for establishing rules in a specified policy area to another public authority. That conclusion was based on the assumption that this was done within the framework of an act of parliament and for the purpose of implementing that act. The Conseil Constitutionnel also held that Article 20(2) would be violated only if the delegation of powers infringed essential aspects of governmental policy³¹.

Different aims were pursued by regulation in differed countries. The purpose of regulation in the UK and the US was not to promote competition *per se*, as it was in continental Europe, but rather to supervise network companies and their potentially monopolistic activities³². Such dissimilarity was linked to different ownership structures. In the UK and the US, network companies were from the outset largely privately owned. In continental Europe, the operation of the networks was entrusted to State owned energy undertakings, which in turn created legal and natural monopolies. In this regard, Poland's approach to energy regulation and liberalization follows the continental model whereby the regulator is granted independence mainly to enhance its impartiality in decision-making. Nonetheless, in line with the German model, regulatory functions are integrated into the Polish Ministry of Economy³³. Statutory regulation is still a fairly new concept in Poland. As a result, no general legal framework or doctrinal consensus exists in relation to the question of how should regulatory agencies function in practice. The ongoing debate concerns the limits to the political independence of regulators as well as the scope of their powers. The trend is clear however: in spite of residual constitutional doubts and democratic concerns, independent regulators have become a necessary component of effective governance in all industrialized countries.

New market-oriented regulation for network industries requires an active national regulatory authority, independent from the influence of market players as well as from day-to-day governmental interference. The Polish energy regulator monitors network performance and regulates energy enterprises in order to secure the interests of final consumers and, at the same time, to ensure market stability³⁴. However, the competences of URE changed considerably with Poland's accession to the EU. Presently, it holds the position of a central authority of public administration. According to Article 21(2a) of the Polish Energy Act, the President of

³¹ For more on this see G. Majone, A. Surdej, "Regulatory Agencies...", p. 7–8.

³² For more on the aim of regulation in different countries see W. Hoff, *Prawny model regulacji sektorowej*, Warszawa 2008, p. 26–38.

³³ More on the regulatory functions of the URE and Ministry of Economy and its correlation see F. Elżanowski, *Polityka energetyczna. Prawne instrumenty realizacji*, Warszawa 2008, p. 84–94.

³⁴ www.ure.gov.pl

URE is nominated by the Minister responsible for the economy (presently, the Minister of Economy) and appointed by the Prime Minister. Until 2006, the term in office of the President of URE was set for five years³⁵.

Unfortunately, the Act on State Human Resources and Senior Higher State Offices of 24 August 2006³⁶ removed the tenure of the URE President. By doing so, it eliminated one of the fundamental pillars ensuring its autonomy, violating in turn the independence requirement set out in the Electricity and Gas Directives. The Prime Minister can dismiss the URE President in one of the listed cases³⁷: continued inability to perform his/her duties due to severe illness; grave violation of duty or criminal conviction. At first sight, it might seem that the law provides the regulator with sufficient independence from the government. However, the dismissal grounds are rather vague. With this change, the government acquired almost unlimited power to shape the structure of the regulatory system³⁸. In practice, the autonomy of the regulator is therefore rather limited while political influence is significant. This should be perceived as a major step back for Poland on its road to creating an independent regulator.

Several issues compromise the independence of the Polish energy regulator at this moment. The first major problem lies in the supervision over administrative bodies such as URE. The Ministry of Economy supervises its activities based on the Act on the Council of Ministers³⁹. According to its Article 34a(1), the Minister may issue binding decisions directed to his/her subordinate (dependent) agencies. In addition, Article 12 names the Minister of Economy as the chief administrative authority in charge of the energy policy. In practice therefore, all actions of URE must be compatible with governmental policy - URE must seek guidelines from the Ministry. As a result, the regulator is often under political pressure to act in favour of the incumbents (owned by the Treasury) or in favour of political considerations, rather than in favour of the market, for example, by approving inappropriate supply tariffs for gas or electricity (prices charged to end users).

On the one hand, regulated prices may sometimes protect customers, for instance, in the period of transition to an open and competitive market⁴⁰ or

³⁵ See Article 21(2a) of the Energy Act.

³⁶ Journal of Laws 2006 No. 170, item 1271.

³⁷ Article 12(5) of Act of 24 August 2006 on State Human Resources and Senior Higher State Offices of 24 August 2006

³⁸ For more on this see Hoff W. (2007) *Polish Energy Regulation in its European setting*. LKAEM Publishing House, Warsaw p. 78–82.

³⁹ Ustawa z dnia 8 sierpnia 1996 o Radzie Ministrów (Journal of Laws 2003, No 24, item 199 with subsequent amendments).

⁴⁰ In transition periods towards well functioning competition the coexistence of regulated and market prices may be necessary to protect customers from potential abuse of dominant

when they are most vulnerable⁴¹. On the other hand, regulated prices are also a political instrument – when elections are in sight, politicians like to keep electricity and gas prices low. Unfortunately, market structure may suffer from price controls that should be declared a public service obligation. The free market cannot function if electricity prices are kept constant, despite rising costs of primary energy sources such as coal, oil or gas. On the gas market, low prices are hard to reconcile with such market factors as the need to move to more expensive supply sources such as LNG. As a result, regulated prices are a strong disincentive for investment in new generation capacity and alternative energy infrastructure, placing those who invest in renewable energy at a competitive disadvantage because it is more expensive than conventional energy production. Moreover, if regulated prices are not in line with the market, those suppliers that have no capacity to generate significant cost savings, or equivalent long-term contracts, will not be able to make competitive offers, which would cover their supply costs.

Therefore, in a country like Poland, where long-term contracts are being slowly abolished, maintaining regulated prices is a dangerous step for the market. It would be justified to separate the regulator from the Ministry and entrust the Parliament with the power to supervise it. This idea is supported by the fact that the division of tasks between URE and the Ministry of Economy is currently quite vague. Seeing as it is unclear who is in charge of guarantying the functional unbundling of network system operators, neither entity seems to be responsible. However, considering that unbundling is a political issue, it requires a political solution.

The second major problem concerning URE's independence derives from the fact that the regulator is financed from the State budget. Its autonomy is endangered by the potential risk of abuse of power by the government in shaping the budget allocated to the authority. This problem might soon be resolved thanks to the third legislative package on EU Electricity & Gas markets, which proposes to give budgetary autonomy to national regulators. Furthermore, since the regulator had no say as to the government's consolidation plans, as well as no authority to regulate cross-border issues, URE does not have the power necessary to intervene in the functioning of the market and to move it towards liberalization.

positions. Unfortunately in practice the co-existence of regulated and market prices is clearly not a transitory measure e.g., France or Poland. Such scheme has been valid for many years and there are no clear indications that Member States with regulated prices intend to remove them and proceed towards market prices.

⁴¹ However protecting vulnerable customers which fulfils requirements of public service obligations should not be confused with maintaining regulated energy prices for all categories of customers.

The third issue impacting the independence of the energy regulator concerns the absence of transparency in URE's relationship with the UOKiK. The two institutions must be separate and autonomous in their operations, especially in circumstances where both can claim jurisdiction such as abuse of market power or violations of suppliers' rights in third party access. Electricity and gas markets, where many mergers and acquisitions fall under antitrust law, are in urgent need of a clear identification of the hierarchy of authority and responsibility between URE and UOKiK.

Third party access has been implemented in Poland through the regulation of access tariffs to the transmission and distribution networks. The question of whether customers really do have third party access is measured by the possibility of switching suppliers. In general, a high switching rate indicates that there is a high level of choice of suppliers or traders. If suppliers and traders have easy access to networks, it can be assumed that access is transparent and based on well-defined tariffs. If the percentage of customers switching suppliers is low, in other words, if customers remain with incumbent suppliers, it must be assumed that their regulated prices impede the entrance of new suppliers. According to the Commission's Benchmarking Report of 2004, only 7% of large customers switched suppliers in the Polish electricity sector⁴². In 2005, only around 20% of large industrial customers and less than 1% of smaller businesses changed electricity suppliers⁴³. The switching rates remained low with only a few very large users changing electricity suppliers in 2006. Unsurprisingly, no gas customer has switched its supplier to date⁴⁴ and it is doubtful that such switch will take place next year.

As of 1 July 2007, there were 15.7 million electricity and 6.7 million gas customers eligible to change suppliers⁴⁵. According to URE's provisional statistics, only 63 industrial customers and 541 households changed their suppliers of electricity in 2007. Among the reasons contributing to low switching levels lies the fact that the switching procedure is costly and complicated involving: the need to balance rules set up by different DSOs; high costs of metering systems introduced by a number of distribution companies and; high equipment modernization costs. Switching is additionally obstructed by heavy administrative burdens such as the need for an expensive and complex expertise concerning access to the system for renewable energy in the case of

⁴² http://europa.eu.int/comm/energy/electricity/report_2005/doc/trade_unions/12b_epsu_psiu_report.pdf

⁴³ For more on this see European Commission, Report on Progress in Creating the Internal Gas and Electricity Market, SEC(2005) 1448.

⁴⁴ See "New Gas Reserves Act gives...", p. 18.

⁴⁵ For more on this see Z. Żukowski, "Umowę dostawy energii będzie można wypowiedzieć" *Gazeta Prawna* of 15 June 2007.

implicit (presumed) lack of capacity set by the operators. Customers are further deterred from switching by the lack of an automated customer information exchange system between suppliers and distributors.

In comparison, at the end of 2006, approximately 50% of all customers (more than 50% of large industrial customers, more than 50% of small and medium businesses and 48% of all households) changed suppliers on the UK electricity market. On the gas market, entities other than the incumbent supply 64% of all customers: more than 85% of large industrial customers, more than 75% of small and medium businesses and 47% of homes⁴⁶. These numbers place the UK energy sector among those with the highest switching rates in the EU.

VI. The shortcomings of market reforms

The shortcomings of the reforms of the national energy sector can be traced back to the fact, that competition in Poland is generally limited to vertically integrated suppliers that are part of former monopolists. Non-vertically integrated (“independent”) energy producers and suppliers have been largely excluded from the market and thus, from the benefits of liberalization. In consequence, vertically integrated incumbents divided the market among themselves – facing only minimal competition – significantly limiting customer choice. Therefore, even though all customers have the right to choose their supplier since 1 July 2007, their choice is in practice very restricted since suppliers are strongly linked to incumbent system operators, which hold the right to grant access to their networks.

In the first part of 2007, only around 1.5% of electricity was purchased on a liberalized market and only 1.8 % of the volume of gas was purchased by entities other than the regional distribution companies owned by PGNiG⁴⁷. This constraint does not apply to energy trading companies, which in theory could operate on a regional or national scale. In practice however, they do not do so because over 55%⁴⁸ of all energy trading is blocked by existing long-term contracts (LTC). Long-term contracts are an exception in competitive markets with adequate liquidity (e.g. the Scandinavian or UK electricity markets). Conversely, in less liberalized markets, companies are bound by long-term supply contracts which oblige them to receive all of their electricity

⁴⁶ Data collected during the stage at the European Commission DG TREN, Unit D-1.

⁴⁷ See “New Gas Reserves Act...”, p. 18.

⁴⁸ See the assumptions of the Ministry of Economy on long-term contracts available at: <http://www.cire.pl/item,27821,1.html>

or gas from the incumbents. Long-term supply contracts can create barriers for smaller firms that want to expand their sales or for potential competitors who want to enter the market. A dominant firm is thus likely to abuse its market position, in light of Article 82 EC, if it ties a substantial proportion of demand to obligatory purchases on a long-term exclusive basis⁴⁹. Long-term contracts have generally the potential to prevent, restrict or distort competition. They are subject to scrutiny under EU competition rules.

Poland has repeatedly, but so far unsuccessfully, tried to eliminate LTCs between electricity generators and PSE (acting as a single buyer), most of which were concluded in the later half of the 1990s. A new law on the recovery of stranded costs due to the cancellation of LTCs⁵⁰ entered into force in August 2007. A maximum of € 3.3 billion⁵¹ in compensation is offered to State owned and private electricity generators as an incentive for a voluntary cancellation of LTCs. If power producers do not take advantage of this voluntary scheme, they leave themselves open to sanctions by the Commission, which believes that LTCs distort competition.⁵² Compensation payments started in the second quarter of 2008 – all 13 State owned generators as well as several privately owned generators, such as Elcho (owned by CEZ), Zielona Góra and Kraków (owned by EDF), Połaniec (owned by Electrabel) and Nowa Sarzyna (owned by Ashmore Energy, formerly Enron), are expected to cancel their LTCs.

A new law on LTCs envisages additional compensation of up to € 270 million⁵³ for gas-fired, combined heat and power plants signed before 1 May 2004. Gas-fired CHP plants have higher variable costs flowing from take-or-pay commitments for the supply of gas. Without extra compensation, gas-fired plants would be disadvantaged *vis-à-vis* coal-fired generators, which buy local coal under short-term contracts. Five CHP plants will be eligible for extra compensation (Zielona Góra, Nowa Sarzyna and three state owned companies: EC Gorzów, which is owned by PSE, EC Lublin and EC Rzeszów).

The cancellation of LTCs is legally and practically logical and justifiable. They have a negative influence on competition and market liquidity creating

⁴⁹ See Case T-65/89 *BPB v. Commission* [1993] ECR II-389, para. 68.

⁵⁰ Journal of Laws 2007 No. 130, item 905.

⁵¹ See Ministry of Economy Web page available at: <http://www.mg.gov.pl/Wiadomosci/Strona+glowna/kdt.htm> (visited 13 July 2007).

⁵² In this regard in November 2005 Commission used its competences under Article 226 EC and asked Poland to deliver Reasoned Opinion regarding long-term contracts. Additionally in its decision C-17/03 of June 2005 ECJ (concerning preferential access given by the Dutch regulator to transport capacities, for imports resulting from long-term electricity supply contracts) considered that the existence of long-term contracts, even concluded before the entry into force of the electricity directive, does not justify any preferential treatment and as such LTC are perceived discriminatory *vis-à-vis* other market players.

⁵³ “Poland’s power producers to terminate PPAs” (2007) 116 *Energy in East Europe*.

entry barriers and distorting the prices of final energy products. The mechanism is straightforward – compensation is being paid in quarterly, pre-payments spread over a period of several years. The payments are handled by a special body, the Manager of Accounts (Zarządca Rozliczeń), owned by the TSO PSE-Operator. The costs of the compensation will be borne by end users. A *transitional fee* will be added to their electricity bills replacing the current equalization fee. Compensation will be calculated based on the difference between revenues raised from the sale of the amount of electricity produced at market prices and estimated stranded costs.

Although the cancellation of LTCs does not raise major legal issues, it has some negative economic consequences. Long-term contracts provide a financial guarantee for electricity generators seeking to invest in infrastructure – they were used to secure bank credits of around € 5.3 billion⁵⁴ (about half of which has already been repaid) to finance the modernization of aging plants and the construction of new capacity. Additionally, LTCs serve as a guarantee for private investors seeking to invest in the energy sector. Assuming that there is a need for new nuclear generation capacity, or capacity based on renewable resources, the return on investment in the energy sector is very long. Finding potential investors is therefore difficult, especially since the necessary input would have to be substantial. Additionally, present global financial crisis is putting an extra strain on the whole of the world economy. The cost of a 2500 megawatt nuclear power plant would be around \$7 billion (3 million per megawatt as opposed to 1 million per megawatt in a coal-fired power plant). Receiving a guarantee in the form of a LTC for the supply of electricity would help secure investment and sustain its rating. Because around 60% of Polish infrastructure needs immediate upgrading, that extra security is important. Unfortunately, legal and business considerations are not always in sync – a lot depends here on the will of the banks to grant credits without the guarantee of a LTC.

Another significant factor delaying the opening of the market, and thus the advent of effective competition, is the slowness of the privatization process. Some believe that energy companies should not be privatized at all. Considering that they are the backbone of the national energy sector, they fear that privatization might undermine the nation's security in the energy field.⁵⁵ The managers of the incumbents as well as their trade unions maintain that privatization will result in major job losses and negative consequences for the environment. Not surprisingly, the energy sector is overstaffed, inflating energy prices. The public still has a negative attitude toward privatization and liberalization.

⁵⁴ “Poland’s power producers....”, op. cit.

⁵⁵ This is a very often mistake made by the politicians. In practice national security is achieved by the diversification of sources and supply routes and not by privatisation or consolidation.

Economic indicators show that Poland's energy demands greatly exceed the available supply. Its growing energy needs will require both domestic and foreign direct investment. Opening of the sector to private investment, considered to be a means of alleviating Poland's energy shortage, is a steadily growing necessity rather than just one of the available options. Poland suffers from a long-standing lack of investments in production capacity as well as lack of upgrades, or even proper maintenance, of the electricity and gas transmission and distribution grids.

The problem of ownership must also be emphasised. Privatisation plans for the electricity market started as early as 1997. However, they were abandoned for political reasons by the former government (in power from 2005–2007) which focused on consolidating existing State owned energy companies into large capital groups such as PGE or Enea. Only recently has the new government taken steps towards partial privatization of these energy giants. However, the preparations needed to float these companies on the stock exchange are not simple, especially when financial markets are in turmoil. To meet listing requirements, energy companies may need, among other things, to increase their capital. However, this is an issue they have to face anyway, considering the investment challenges they face. Although costly, the creation of new capacity is necessary to ensure Poland's energy security.

Partial privatization on the stock market may not necessarily translate into the necessary internal restructuring or improve business practices of energy companies. Despite public trading, they may still be subject to strong political influence that is not always in line with the market. In the future, a strategic investor might still take partial, or even complete, control over these entities. This outcome depends on the Ministry of Treasury which owns most of the energy sector. In order to attract potential strategic investors, the Polish government must reduce the risk associated with its current policies – it must significantly enhance transparency in government institutions and create a climate favourable to economic growth. The introduction of a policy that reflects the interests of investors and consumers is also a must. The sector also needs an independent regulator with the power to ensure affordable services for consumers.

The political controversy surrounding privatization has put pressure on the government to retain State ownership of energy networks or energy network companies (system operators). On the one hand, State control might be justified not only from the strategic point of view but also from the competitive point of view. It makes it possible to set the conditions of access to the electricity grid/gas network independently of commercial interests. However, assuming that the State continues to own a major share of infrastructure companies, it must not hold any stock in generation or supply companies. At the very least, it must

limit its participation in generation or supply companies to a level which does not allow it to exercise any influence over their operations. Such an approach would emphasize the necessary expansion of the energy infrastructure with respect to the security of supply. It would also achieve the objective of securing efficient operation and development of the infrastructure and the provision of equal access to the grids for all users.

On the other hand, while State ownership of system operators might find justification in competition and strategic interests of the country, State ownership of supply companies cannot. Only privately owned supply companies are directly linked to customers and exposed to the free market and thus able to adapt to the market mechanism of demand and supply when setting electricity/gas prices. In this regard, Poland does not have adequate financial and human resources to equally equip all of its State owned energy giants. Thus, for the benefit of the market and consumers, supply companies should leave State hands. Where networks or network operators are bundled together with supply companies under State auspices, the problem of unbundling would arise. Monopolistic public entities would be tempted to abuse their favorable market position to discriminate against competitors.

VII. Conclusions

There are at least two possible scenarios Polish policy makers can follow in liberalizing its energy sector. One would involve the UK approach that encompasses: ownership unbundling, less market concentration, less public ownership and more private capital in the industry. The second scenario follows the continental model: more concentration and vertical integration and more State or public ownership in the energy field (for instance, the French model). These two widely diverging approaches reflect different energy consumption patterns, energy mixes, sources of supply and natural resources of various European countries.

Three issues make it difficult to objectively measure which of the models is better. First, the process of market opening is far from complete. Second, the process started much earlier in the UK than in other EU countries – historical circumstances have thus given the UK an advantage over other regions. Third, the UK has adopted a model based on a political, legal and economic environment that has long since supported the accumulation of private capital and the pursuit of entrepreneurial initiative. In contrast, the French have successfully adopted an approach that has entailed a very strong role of the State. It is difficult to determine in the abstract whether one of

the models is better than the other. It is thus difficult to predict which model should be applied in Poland.

From the Polish point of view, changing the structure of its energy markets (from State to private ownership), especially under heavy opposition from trade unions, is very difficult in political terms. With its history of a centrally-planned economy and the nationalization of the energy sector, Poland is likely to find the French model easier to accept. This acceptance does not guarantee however that it would turn out to be the best economic choice for the national energy sector. In this regard, Poland's and France's experiences are very different. Whereas France has long since exposed its State owned entities to competition in the EU and the global market (with moderate State interventionism), Poland has persistently protected its socialist economy from market forces. For years, it was irrelevant whether State owned companies were profitable or not. The lack of a capable, market-tested private sector in general, has delayed the development of Poland's electricity and gas markets in particular. In the opinion of the author, the lack of a competent industry "owner" (far more knowledgeable about the particularities of the sector than the State) severely impacted its development.

If the French model is somewhat problematic for Poland so too is the UK model. The latter is likely to be the better option because both its electricity and gas markets have been fully open since 1998, as a result of the liberalization process that started in the late 1980s. What characterises the UK model is that: price controls are removed; customer-switching rates are among the highest in the EU; market concentration is relatively low; the ownership of gas and electricity transmission companies is unbundled and thus, there is no incentive to discriminate among market players and; finally, that competition is considered to be effective. Particularly the English and Welsh markets appear to have become much more competitive since the late 1990s. The sector in general has become more efficient and customer bills have fallen (some of the lowest energy prices in the EU). The research of Joskow⁵⁶ suggests that structural, regulatory and market reforms like those in the UK have significantly improved the condition of the energy companies – once State owned monopolies that have undergone an effective privatisation process. The latter, together with a mechanism to regulate distribution companies, has generated significant cost-savings overall, without compromising service quality. Wholesale markets have also stimulated improved performance among existing generators and facilitated major investments in new energy-generating capacity. Although the outcome of the liberalization of the UK energy sector has been satisfactory, the radical political and economic transformation, from which it originates and

⁵⁶ P. Joskow, *Lessons Learned From Electricity Market Liberalization* (2008) *The Energy Journal, Special Issue. The Future of Electricity: Papers in Honor of David Newbery*.

which began in the Margaret Thatcher era, would be very difficult to apply in Poland. Although Thatcher's policies might not have benefited everyone, she ensured that the UK economy has not become a socialist welfare-state such as Germany or France. This is especially noticeable in the energy sector, with its high rate of employment (not to say over-employment).

One has to wonder therefore whether it would be possible to somehow foster in Poland the results of UK liberalization process? Alternatively, would it be possible to apply a conjunction of the two models? The answer is, to some extent, yes. Consolidation through administrative means, as conducted in Poland, goes against the Commission's spirit of liberalization. However, it could succeed in the long run if followed by privatization (through the stock exchange or through private ownership by a strategic investor and, if necessary, partial government ownership) which would lead to internal restructuring of the energy conglomerates. Paradoxically, privatization needs strong support from the government. Unfortunately, the government's seemingly strong liberal approach towards the reform of the energy sector is threatened by the negative attitude towards privatization in general, and unbundling in particular, of the trade unions and the two energy giants PGNiG and PGE. The workforce and the companies themselves are indeed very influential stakeholders in this debate, allegedly able to successfully lobby the government and to affect the formation of economic policy.

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