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Implementation of TPA (Third Party Access) principle in Polish energy sector

Abstract

The liberalization of energy sector in Poland is conducted according to the conclusions deriving from the criticism of the traditional theory of regulation – the TPA principle is an instrument enabling introducing competition in energy trade subsector. However, in spite of formal assurance that the right to change electricity supplier is granted to all recipients, only a small number of entitled entities exercise this privilege. It is only the group of big industrial buyers among whom growing interest to exercise the TPA principle can be observed.

The barriers to changing electricity supplier include economic, technical and formal ones. Removing them in the future will result in the increase of competition scale in energy sector.

1. Introduction

TPA (Third Party Access) principle imposes an obligation upon electric network owners to make it accessible to other entities. Without this principle the monopoly of electricity suppliers would be difficult to break in the electricity market for end users. The users of a given network have a right to switch to an energy supplier other than the one (network owner) whose services they use currently. Potential suppliers, however, can supply energy using already existing

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networks[1]. This principle enables the usage of a distribution network of network enterprises without obligation to buy energy from them and every end user has a free choice of a supplier that offers the best price and supply terms.

The fact that end users can choose energy suppliers freely (introduction of competition policy) is the basis for the process of energy sector liberalization.

The aim of this paper is an attempt to evaluate the involvement of Polish users in the process of changing energy suppliers as well as the identification of barriers impeding this process. The introduction to the analysis presented below is the outline of prerequisites for "opening" network sectors (with a special focus on energy sector) to competition.

2. Competition in Network Sectors – Theoretical Aspects

The prerequisites for liberalization of network sectors can be found in the criticism of a traditional theory on natural monopoly regulation. According to this theory market mechanism failure is a good reason for a state intervention (in the public interest) in functioning of network sectors (from an economic point of view treated as natural monopolies). State regulation of natural monopolies is to ensure that the level of price and production in a given branch is comparable to free competition. The way of increasing production and wealth by the state (regulatory bodies) while "closing" market to competition is setting a price based on average cost for a monopolist, which means a price ensuring "fair" rate of return on capital invested.

The critical trend towards regulation theory has been developing dynamically since the turn of 1950s and 1960s and it comprises two directions of research. The first one concentrates on functioning of regulatory mechanism, the latter focuses on natural monopoly.

The arguments connected with the first direction which aim to prove inefficiency of regulatory mechanism to find effective solutions i.e. comparable with free competition are as follows[2]:

1. While setting regulated prices a natural monopolist is subject to strong stimuli to overestimate their costs in order to justify a higher level of prices.

[1] More on TPA principle, see A. T. Szablewski (1998), Promowanie konkurencji i uwarunkowania wyboru metody regulacji cen energii i paliw, [in:] A. T., Szablewski (ed.) Liberalizacja sektora energetycznego i telekomunikacyjnego, INE PAN, Warszawa, p. 18–19.

[2] Compare. W.F. Samuelson, S. G. Marks (1998), Ekonomia menedżerska., PWE, Warszawa, p. 486.

Imperfect estimation of costs lead to setting a wrong price level. Lack of full information hinders then an effective regulation of natural monopolies by the state.

2. A monopolist that is subject to regulation loses motivation to lower costs. If a regulatory body could ensure that equality of price and average cost is maintained permanently, each increase of cost would cause a price increase. A monopolist enterprise would not have any motivation to try to keep costs 1low.
3. Regulatory bodies do not fulfill public interest (as stated in the traditional regulation theory) but they care for interests of regulated enterprises. In this sense regulation is perceived as a means of protection for companies acting in natural monopoly conditions against negative effects of competition they might face.
4. Administrative regulation generates high costs which finally must be reflected in prices.

The arguments presented above show that regulation can lead to price 'inflation' – in a long period of time a price is formed on a higher level than in the case when it was decided by an individual enterprise, which proves not only inefficiency of regulation but it undermines the sense of closing sectors regarded as natural monopolies to competition.

On the other hand, the second direction of critical research towards traditional regulation minimizes threats connected with natural character of monopoly or points at disappearance of conditions of natural monopoly in certain areas (Szablewski 1998, pp. 56–57).

The reaction to argumentation on the need of regulation in markets where natural monopoly exists is the theory of contestable markets[3], which falls within the trend focusing on minimizing threats for competition which result from the existence of natural monopoly. According to the contestable markets theory, i.e. monopolized markets that do not give a monopolist freedom of action „in some sectors a monopolist can be subject to strong potential competition, which prevents it from abusing a dominant position and reduces a need of administrative market regulation" (Fornalczyk 2007, pp. 47–48). Threat of potential competition will then cause that a well established company will behave like an enterprise acting in a perfectly competitive market i.e. it will set such a price and production volume that it will achieve zero profit (Borkowska 2009, p. 162). The number of assumptions accepted in the theory of contestable

[3] More about the theory of contestable market sin Polish literature compare A. Fornalczyk (2007), *Biznes a ochrona konkurencji,* Oficyna a Wolters Kluwer business, Kraków, pp. 48–49.

markets, such as lack of barriers of market entry, lack of so-called sunk costs are strongly criticized because of their unrealistic character. However, as A. Fornalczyk states, „the theory of contestable markets irrespective of its unrealistic assumptions reinforced a debate on the role of potential competition and importance of barriers to market entry and exit in evaluation of enterprise market power" (Fornalczyk 2007, pp. 48–49).

The assumptions of the theory of contestable markets enable to formulate recommendations for competition policy towards network sectors. The main point of these recommendations focuses on undertaking action facilitating access to market and emergence of competitive environment, which in the course of things enables „resignation" from traditional regulation. The actions of a regulator that may result in the situation that markets become contestable markets are the following[4]:

- separation of assets (transmission network) from a well established company with high sunk costs;
- facilitating market entry for new companies by removing legal barriers of market entry and exit;
- providing equal access to transmission network to entities present in a market.

In other words, due to high sunk costs in network monopoly markets it is advisable to separate a network owner from network operators and supervise access to network by a regulator (Borkowska 2006, p. 71).

The criticism towards traditional regulation emerges also from a conviction that in the course of changes of technical-economic structure of public utility sectors, especially changes in demand structure and technical progress, the range of a natural monopoly in infrastructure sectors diminishes (as it was already mentioned this trend points at disappearance of natural monopoly conditions in certain spheres). In literature one can even find views that do negate the existence of natural monopolies.

T. J. DiLorenzo claims that: „The theory of natural monopoly is an economic myth and emerged as the reaction to enterprises demands concerning protection against competition. There is no empirical evidence confirming the fact that in spheres like production and electrical energy supply, telecommunication, an individual enterprise is able to generate a specific amount of products at lower average total costs than if the same amount was produced

[4] Assumptions formulated by E. E. Bailey in the study: *Contestability and the design of regulatory and antitrust policy*, „American Economic Review" 1981, No. 2. Cited by: B. Borkowska, *op. cit.*,p. 185.

by more than one enterprise" (DiLorenzo 1996, p. 58). However, the above opinion is isolated – „critics of the concept of a natural monopoly do not question a basic thesis that in certain technical-economic conditions the status of exclusivity has objective presuppositions, but they stress that the conditions must be treated dynamically" (Szablewski 2003, p. 73).

The biggest impact on weakening of structural bases of monopoly is associated with technological progress. Traditional theory of natural monopoly assumes the occurrence of economies of scale in the whole network sector (in case of energy, both in subsector of energy generation and in subsector of its transmission and distribution). As D. L. Kaserman and J. W. Mayo state: „For many years it was assumed that economies of scale appear both at energy production and distribution stages, which supported the view that a given geographical market should be serviced only by one company" (Kaserman and W. Mayo 1991, p. 484). The number of studies conducted in the 1990's show, however, that together with technological progress economies of scale in a subsector of energy generation (and its trade) disappear, but are still present in transmission and distribution subsector (Filippini, p. 158).

Technological considerations reinforce then introduction of competition elements in network sectors and at the same time conclusions concerning competition policy towards network sectors evolving from the criticism of traditional theory of monopoly are similar to conclusions flowing from the theory of contestable markets. That is why there is a strong suggestion that certain entities are separated from energy plants – owners of electrical network and that a natural monopoly is maintained in the field of energy distribution. On the contrary, energy generation and trade should be subject to competition mechanism.

3. Reforms of Polish Energy Sector and TPA principle

Restructuring processes in Polish energy sector started in 1990 when three independent sectors: energy production, transmission and distribution were separated from a former centralized unit. The next stage involved setting up entities dealing only with energy trade.

The major step towards the liberalization of the Polish energy sector was the amendment to the act – the *Energy Law Act* that entered into force on 3 May, 2005. It included the transposition of the regulations of the "Electrical" Directive 2003/54/WE of the European Parliament and the Council of the European Union from 26 June 2003 concerning common rules for the internal market in

electricity. The liberalization of electricity markets in the EU was initiated earlier with the adoption of the Directive 96/92/WE of the European Parliament and the Council that for the first time introduced the TPA principle (Dobroczyńska 2003, p. 64).

The directive stipulated a gradual opening of electricity markets, namely successively allowing smaller recipients to choose an energy supplier.

Experience gained in the course of implementation of the above mentioned directive indicated the necessity of accelerating the liberalization process of electricity sector in the EU states. That is why on 26 June 2003 the European Parliament and the Council adopted a new directive that overruled the Directive 96/92/WE. The changes to the Directive 2003 included the set time period for granting the right of a free choice of a supplier for specific groups of recipients. The main point was that from 1 July 2007 this right was to be granted to all recipients, including households.

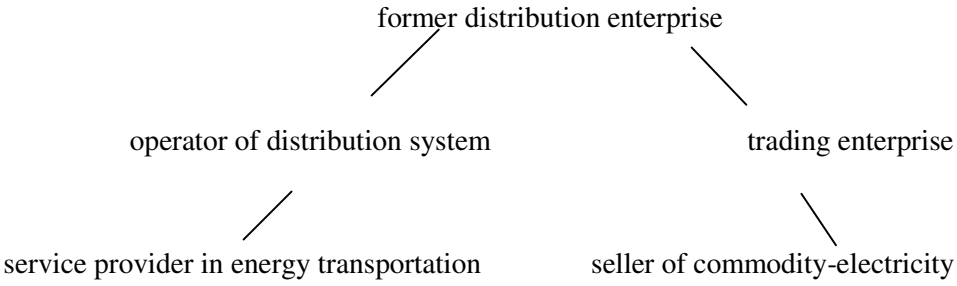
Pursuant to the guidelines of the directive 2003/54/WE the Energy Law Act was amended by the stipulation which states directly that a recipient has a right to purchase electrical energy from a desired supplier, which results from abolishing constraints to the access to transmission and distribution services[5]. The right was granted to all recipients on the entry into force of the amendment to the *Energy Law Act* (excluding households) and the full opening of the market for households took place on 1 July 2007. Simultaneously, in order to enable recipients to exercise this right, energy enterprises offering transmission or distribution services have been obliged to provide these services on a level playing field.

The main instrument of the implementation of the TPA principle is the requirement set out in the amendment to the Energy Law Act and resulting from the Directive 2003 which states that network activity must be separated from commercial activity in former power plants from 1 July 2007.

The chart below illustrates the division of former distribution enterprises (Power Plants) into entities providing services of energy transportation (so-called operators of distribution system) and entities dealing with sale of electricity (so-called trading enterprises).

[5] More about the amendment to *Energy Law Act* from 3 May 2003 compare R. Guzik, A. Panek, K. Smagiel (2007), *Otwarcie rynku i co dalej?*, „Biuletyn Urzędu Regulacji Energetyki", nr 4, p. 2.

Graph 1. Unbundling in Polish Energy Sektor



Source: own description.

Concurrently 1 July 2007 marked the beginning of legal unbundling in the Polish energy sector – former monopolists were forced to separate distribution activity from any activities of competitive character (sale of electricity). Unbundling is supposed to prevent a situation in which well-established power plants abuse their position in contacts with emerging companies. In the conditions of separating network activity from trading all operators are expected to be neutral – they must not impede a change of supplier i.e. force customers to remain the recipients of their services against their will (Panek, Smagiel 2007, p. 2).

The change of energy seller does not mean the necessity to build a separate electrical connection – a recipient is still connected to the distribution network of a former supplier (former power plant) and still has a right to use distribution service on the same rules as before. Natural monopoly is maintained in the area of distribution, which results from high costs connected with the installation of electro-energetic network.

The table below presents the progress in the process of the TPA principle implementation in the period of 2006–2009 (2006 was chosen because the *Energy Law Act* was amended in May 2005).

Table 1. Implementation of TPA principle

Year	Number of buyers taking advantage of TPA principle
2006	61
2007	604
2008	990
2009	2634

Source: URE.

The data presented above show that in spite of availability of formal free access to distribution networks the TPA principle is still applied only by a small number of entities. It is connected with the fact that only a small group of recipients can see advantages of consumer autonomy. A recipient that exercises the TPA principle in the Polish practice is a user who has signed a sale contract with a vendor other than a trading enterprise separated from an enterprise to whose network users are connected. At the end of 2006 the number of entities using the TPA principle amounted only to 61, all of them were commercial entities as households still were not entitled to choose an energy supplier. This number was astonishingly small because the number of recipients entitled to use the TPA principle was about 1.7 million. It must be noted, however, that the number of recipients who decided to switch an energy supplier was systematically increasing. At the end of 2007 604 energy users applied the TPA principle and the number of entitled users was 16 million. It resulted from the fact that on 1 July 2007 households acquired the right to switch an energy supplier. At the end of 2008 990 users, including 905 households signed a sale contract with a vendor other than a trading enterprise separated from an enterprise to whose network users are connected. What is more at the end of 2009 the number of recipients using the TPA principle amounted to 2634. It must be observed that both in 2008 and 2009 the number of entities entitled to switch an energy seller was 16 mln users.

Although a number of recipients exercising the right to switch an electricity supplier is still relatively small, 2009 showed some improvement in this process. Apparently the biggest dynamics can be observed in a commercial segment, at the end of 2008 there were only 85 recipients who applied the TPA principle, whereas at the end of 2009 1599 were noted. Among individual buyers, however, we still observe a very small dynamics of supplier switching. At the end of 2008 there were 905 household recipients who bought energy from a vendor other that the one traditionally connected with a given area, whereas in 2009 there were 1035.

The analyzed period is too short to assess fully the implementation of the TPA principle in Poland. However, it must be noted that the liberalization process of energy market in Poland advances very slowly in comparison with the progress observed in the Great Britain. It is estimated that in this country after the implementation of the TPA principle in May 2009 about 3 million recipients changed an energy supplier till the beginning of 2000 (Kwiatkowski 2008, p. 52).

Undoubtedly, the Great Britain as a forerunner of energy sector liberalization in Europe is still a leader in terms of the implementation of the TPA principle. In 2008 more that 5 million users changed an energy supplier

(2009 Great Britain and Northern Ireland National Report to the European Commission in relation to Directives 2003/54/Ec(Electric) and 2003/155/EC (Gas), http://ec.europa.eu).

4. Barriers impeding a process of changing energy supplier

The fact that only a small number of recipients are involved in the process of changing electricity supplier can be explained by the following factors[6]:

1. There are not enough competitive offers of trading companies directed to households. A small, individual energy recipient that uses a relatively small amount of electricity is not an attractive partner for vendors – profit they make from selling electricity to households is marginal, whereas marketing costs are huge. Some sellers are interested only in attracting big clients that buy a significant amount of energy or their offer is directed to customers that operate only in a specific region of Poland (recipients from other regions cannot take advantage of their offer). Trading companies should by definition try to attract new buyers, however, they mainly concentrated on retaining current customers. Marketing activities of sellers were focused on maintaining current status quo, e.g. by offering a price guarantee with their product (it states that throughout the whole period of a signed contract the price of energy will not change). A certain improvement in this area was noted at the end of the fourth quarter of 2008 when falling demand for energy resulted in the fall of energy prices and the advent of competitive beahaviour patterns of trading companies which concentrated on attracting new customers. The differences in energy prices set by trading enterprises are nevertheless not significant enough to encourage buyers to change energy supplier on a large scale.
2. Condition of wholesale energy market. The availability of energy sale offers for final users is a derivative of both marketing decisions of trading companies and the condition of competition on wholesale energy market. The cheaper energy sellers buy in wholesale market, the lower prices they offer to final users. The Polish wholesale energy market shows very small liquidity – trading between energy producers and trading enterprises is conducted mainly on the basis of bilateral agreements, only marginal quantities of energy are traded on stock exchange. In 2008 almost 90% of energy sold by energy producers was traded to trading enterprises within

[6] See Raport Roczny Prezesa Urzędu Regulacji Energetyki 2009 (2009), URE, Warszawa.

bilateral agreements. Moreover, the organization of energy trade in wholesale market is characterized by strong trade concentration within vertically integrated energy groups.

3. The buyers are generally not aware of being entitled to change energy supplier. It is most common in case of recipients of small amounts of energy as they do not possess sufficient knowledge on their rights and duties in highly competitive market. More experienced recipients whose energy consumption is immense know more about the possibility of changing energy seller, but they are often discouraged by other factors. Distribution system operators try to dissuade buyers from changing a supplier by impeding the whole procedure (e.g. postponing signing a contract for distribution services, unjustified changes to the rules of provision of services after a buyer exercised a right to choose a seller).
4. The procedure of changing a supplier poses a lot of inconvenience to electricity buyers, mainly households. Recipients who do not change a supplier can make settlements with energy sellers by one invoice covering the purchase of energy and its distribution (so-called complex contracts that encompass all provisions concerning sale of energy and distribution service). However, a buyer who changes a supplier must split a complex contract and sign a new one with an energy seller as well as another one concerning electricity distribution. The first contract is signed with electricity seller and sets out the rules on energy purchase. The other one describes the terms of provision of distribution service and is signed with network enterprise (distribution system operator). The change of seller means the necessity of paying two energy bills (for purchased and delivered electricity). Apparently, in spite of the obligation of dividing distribution enterprises into separate legal entities that deal only with network activity – called operators, effective keeping recipients with a capital group that was formed as a result of such restructuring does not present a problem.
5. Technical barriers connected with the necessity of adjusting measurement system to a new supplier so that a new one is equipped with registry functions and remote reading options. In case of big companies with large energy consumption (big manufacturing enterprises) there is an obligation of adjusting meters so that the change of supplier can take place and the costs are covered by these companies. Meters used by medium-sized companies must be also adjusted but the costs are covered by a distribution company. However, in case of recipients connected to low voltage network (e.g. households, small service companies) lack of registered meter equipped with data transmission system does not hinder the process of changing a supplier.

6. The documents accompanying a change of electricity supplier are not standardized (there is no standard general distribution contract that is mandatory in the whole area of Poland). General distribution contracts link sellers of energy and its distributors. Without such a contract an energy seller cannot sell it in the area where a given distributor operates. However, the differences between these contracts result in complications in the process of changing a supplier and increase its costs. The procedure of attracting a new customer by a seller is carried on according to inconsistent rules (dependent on distribution system operator to which a recipient is connected).
7. Lack of legislation guaranteeing stability of electricity supply in case when a current supplier all of a sudden ceases to supply electricity, which happens without recipient's guilt and is called emergency supplier regulations.

Nevertheless, it must be mentioned that a certain number of actions facilitating the implementation of the TPA principle have been recently initiated in Poland. They include the following improvements:

1. The procedure of changing electricity supplier has been greatly simplified. Since 1 July 2008 this process cannot exceed 30-day period in case of the first change and 14 days in case of a subsequent change (formerly it took much longer). These periods are binding for distributors. In practice, the change of supplier can take much longer because the first step involves denunciation of a current contract and it shall take effect after 30 days or more. As it was mentioned before, in certain circumstances it is also obligatory to adjust meter systems. There are no constraints concerning the number of supplier changes (formerly households and small enterprises were allowed to do it free of charge twice a year).
2. In 2008 energy prices were freed for industrial buyers, which definitely contributed to a significant growth of energy prices in comparison to year 2007. On the other hand, thanks to this process trading enterprises started to fight for clients, which resulted in a big dynamics of energy seller changes among industrial buyers in 2009.

5. Conclusions

The theory of economics provides strong arguments in favour of liberalization of network sectors which means expanding market mechanism in them. In case of energy sector the theory suggests maintaining natural monopoly only in energy distribution and transmission subsectors.

The model of energy sector liberalization used in Poland derives from the criticism of the traditional theory of regulation. The basis of this model is the possibility of choosing an energy seller by a recipient (i.e. introducing competition to a trade subsector).

In spite of formal assurance that the right to change electricity supplier is granted to all recipients (including households) liberalization process advances very slowly in Poland. Only a small number of entitled entities exercise this privilege. It is only the group of big industrial buyers among whom growing interest to exercise the TPA principle can be observed.

The barriers to changing electricity supplier include economic, technical and formal ones. Removing them in the future will result in the increase of competition scale in energy sector.

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Streszczenie

REALIZACJA ZASADY TPA (THIRD PARTY ACCESS) W POLSKIEJ ELEKTROENERGETYCE

Liberalizacja sektora energoelektrycznego w Polsce przebiega zgodnie z wnioskami płynącymi z krytyki tradycyjnej teorii regulacji - zasada TPA, nakładająca na właścicieli sieci obowiązek udostępnienia tej sieci innym podmiotom, jest instrumentem umożliwiającym wprowadzenie konkurencji w sferze obrotu energią. Jednakże, mimo formalnego zapewnienia wszystkim odbiorcom prawa do zmiany sprzedawcy energii, niewielka liczba uprawnionych podmiotów korzysta w Polsce z przywileju zmiany sprzedawcy. Jedynie wśród dużych odbiorców przemysłowych, obserwuje się coraz większe zainteresowanie wykorzystaniem zasady TPA.

Przeszkodą w zmianie sprzedawcy energii jest szereg barier ekonomicznych, technicznych i formalnych. Ich usunięcie pozwoli w przyszłości na wzrost stopnia konkurencji w sektorze elektroenergetycznym.