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## МАРКЕТИНГОВІ ЗАХОДИ НА ЕНЕРГЕТИЧНОМУ РИНКУ В ЄВРОПЕЙСЬКОМУ СОЮЗІ

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Представлена основна інформація про діяльність енергетичного сектору у країнах Європейського Союзу, особливості енергетичних ринків, характеристика елементів енергетичного середовища підприємств. Наведено основні інструменти та маркетингові заходи енергетичних підприємств, а також питання, що стосуються розроблення маркетингової стратегії функціонування підприємства на енергетичному ринку.

**Ключові слова:** енергетичний ринок, маркетингові заходи, Європейський Союз.

## MARKETING ACTIVITIES ON THE ENERGY MARKET IN THE EUROPEAN UNION

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The article presents basic information concerning activities of the energy sector in the European Union, characteristics of the energy markets, characteristics of the energy enterprises elements environment. The author presents basic instruments and marketing activities of energy enterprises as well as issues concerning developing marketing strategy of the enterprise functioning on the energy market.

**Key words:** energy market, marketing activities, European Union.

**Problem formulation.** Marketing in the energy sector developed much later in comparison to other goods markets. This happened because for decades energy markets were identified with the existence of natural monopoly, the range of which (although it is only connected with network activity) was extended

on the entire sector. Such a monopolistic organization of the sector, in connection with lack or limited competition level, was not favourable for development of marketing in the energy trade enterprises. It was only in the recent decades of the past century, because of the results of reforms in the electric energy and gas sectors, which began in the USA and were introduced with full consequence in Europe, that the energy sector began to adapt and develop modern marketing principles.

Energy marketing development, as a specific category, was influenced primarily by specific qualities of energy as a product and energy trade specificity connected with the use of one transmission network by all subjects operating on the market. These factors largely determine the possibility of applying marketing activities well-known from other product market and they determine the process of shaping marketing-mix and marketing strategies for the product such as energy.

**Analysis of current research outputs and publications.** The European Union's power occupies the second place in the world's ranking with respect to the size (the United States power being in the first place). The general power installed in the European Union is 874 GW, where 52% is based on so called conventional sources, 14% is nuclear energy, 16% is hydroenergy and the remaining 18% is based on renewable energy.

In Poland the structure of the installed power (37 367 MW) looks as follows: 88.9% is based on coal, lignite coal and gas, 59% is hydroenergy and 5.2% is based on renewable energy [1].

The results of the economic crisis of recent years in the European Union's countries can be observed in the dynamism of energy consumption. In 2008 the internal energy consumption in 27 countries of the European Union was on the level of 1800 million tonnes of oil equivalent (toe). A year later the level decreased to 1700 million. In 2010 the value was 1760 million tonnes of oil equivalent, in 2011 in turn, it decreased again to 1700 million of toe. In the years 2008-2011 energy consumption in EU countries decreased by 6%. The countries which consumed most energy in 2011 include Germany (316 mln toe), France (260 mln toe), Great Britain (199 mln toe), Italy (173 mln toe) and Spain (129 mln toe). Poland in 2011 consumed 102,2 mln toe of energy. The biggest decrease in energy consumption in the years 2008-2011 took place in Lithuania (decrease by 24,5%), in Ireland and Greece (decrease by 12,3%). Substantially large decreases occurred also in Romania (-10,2%), Great Britain and Spain (-9,4%). Only four out of 27 countries of the European Union recorded growth of energy consumption in the years 2008-2011. These countries besides Malta, Estonia, and Belgium include also Poland (increase by 3,2%). [2].

*Table 1*

**Structure of electricity production in domestic power plants, volume of electricity exchange with foreign countries and electricity consumption in the years 2006-2011**

Specification	2006 GWh	2007 GWh	2008 GWh	2009 GWh	2010 GWh	2011 GWh
<b>Total electricity production</b>	160848	159528	155574	150913	156342	163153
<b>Commercial power plants (including)</b>	152498	150866	146850	141874	146107	151319
Commercial hydroelectric power plants	2822	2682	2516	2751	3268	2529
Commercial thermal power plants	149676	148184	144334	139123	142839	148790
Using coal	92111	93133	86549	84274	89212	90811
Using lignite coal	53518	51142	53798	50797	49460	53623
Using gas	4046	3908	3987	4052	4167	4355
<b>Wind power plants and other renewable ones</b>	70	446	680	835	1312	2833
<b>Industrial power plants</b>	8280	8216	8044	8204	8923	9000
<b>International exchange</b>	-11001	-5358	-684	-2195	-1354	-5242
<b>Domestic electricity consumption</b>	149847	154170	154890	148718	154988	157910

Source: [1]

The volume of the gross national electricity production in 2011 amounted 163 152 GWh and was higher the second consecutive year by over 4% with reference to the previous year. The main reason of the production growth is the increased demand for electricity connected with higher dynamism of economic growth. Domestic electricity consumption amounted 157 910 GWh and was slightly higher than the consumption in 2010 (increase by nearly 2%). The surplus of electricity production against its domestic consumption is the result of favourable conjuncture in the international electricity trade for Polish subjects producing electricity. In the course of the year 2011 the surplus of energy export against importing it was 5 242 GWh, while the surplus in 2010 with reference to the previous year was 1 354 GWh. In 2011 the power installed in Polish National Power System (PNPS) grew distinctively in comparison to previous years and amounted 37 367 MW [3].

The present shape of the market environment in the power sector in Poland is the result of changes which were originated in April 1997, when the act Energy Law treating electricity as a product came into effect. In the scope of vertical integration of energy enterprises followed by the horizontal one of producers, distribution companies and turnover companies there were four big energy groups created in Poland: PGE Polska Grupa Energetyczna S.A., Tauron Polska Energia S.A, ENEA S.A, and Energa S.A. Consolidation and further privatization of the companies aimed at creating economically strong enterprises which would be able to incur costs of necessary investments and compete successfully with European enterprises.

Additionally, apart from structural and ownership changes Polish market has been undergoing in the recent years a number of reforms aimed at its liberalization. The most important events of this period influencing the present shape of the market include distinguishing the rights of the transmission system operator and distribution system operators, terminating long-term contracts for electricity producers and simultaneous introduction of compensation system as well as deregulation of electricity prices, except G tariff group comprising households. Recipients can also freely choose the electricity seller. Functioning since 2010 so called exchange obligo, which obligates (with certain exceptions) electricity producers to sell produced energy at competitive conditions through commodity exchange or other turnover platforms completes the present shape of market environment in the power sector in Poland.

Table 2

**Seller selection right – situation in different groups of commercial and household recipients (2011)**

No	Transmission system operator	Number of TPA recipients		Volume of electricity provided within TPA [MWh]	
		A, B, C	G	A, B, C	G
1.	PGE Dystrybucja SA	4 965	4 743	6 018 220	4 208
2.	ENERGA – OPERATOR SA	4 600	4 866	2 782 623	13 745
3.	TAURON Dystrybucja SA	8 085	3 434	12 724 467	6 788
4.	ENEA Operator Sp. z o.o.	2 893	834	4 479 209	2 052
5.	Vattenfall Distribution Poland SA	678	482	5 492 125	3 717
6.	RWE Stoen Operator Sp. z o.o.	1 044	1 124	1 445 333	6 047
7.	PKP Energetyka SA	80	0	44 910	0
8.	Polenergia Dystrybucja Sp. z o.o.	65	0	43 054	0
9.	Dalkia Poznań Zespół Elektrociepłowni SA	18	0	146 627	0
10.	ENESTA Sp. z o.o.	4	0	89 006	0
11.	Anwil SA	1	0	115 852	0
<b>Total</b>		<b>22 431</b>	<b>15 483</b>	<b>33 381 425</b>	<b>36 557</b>

Source: [4, p.21]

Electricity market in Poland operates on two basic levels. The first of them is the wholesale market, in which electricity producers and wholesale purchasers participate. The second level is the retail market, where electricity producers offer recipients energy delivery competing among themselves with price,

delivery conditions and additional services. Each of these markets consists of two areas: the competitive one and the regulated one.

The market is still characterized by the situation where consumers are "loyal" to the present sellers and the range of changes is small despite the fact that the right to choose the seller (TPA) was granted to all groups of recipients on 1st July 2007. Although the number of recipients who have taken the advantage of the new right is still relatively low, the number of recipients who made use of it in 2011 was over four times higher in comparison to the year 2010. It is also worth emphasizing that dynamism of the seller change issue by the household recipients last year was not only significantly higher than in previous periods, but also higher than in the institutional recipient group. The number of households that changed the seller grew ten times in comparison to the number recorded at the end of the year 2010.

**Article objectives.** The aim of this paper is to present basic information concerning energy sector operations in the European Union, characterize basic instruments and marketing activities conducted by energy enterprises as well as issues concerning developing marketing strategy of the enterprise functioning on the energy market.

**Presentation of main materials.** Energy is a product and unless we realize this fact we will have problems to understand functioning of the competitive energy market. This is the product which has been produced by somebody (power plant), transported by somebody (distributor), sold by somebody (seller) and bought by somebody (recipient).

From the marketing point of view energy as such is not a typical product. The specificity of energy as a product is influenced, among others, by its following qualities [5, p.142-143]:

- no storing possibility,
- special transport conditions,
- versatility of applications,
- limited substitution possibility,
- impossible explicit identification of used electricity source.

Due to specific qualities of energy as a product it is vital in the energy sector that employees possess extensive knowledge and high competences, particularly the personnel which has direct contact with the customer. Competition demands new skills from employees who contact customers. They have to learn to use vital information, how to cope with complex problems arising from competition and become, regardless of the function fulfilled, creators of the company's proper image. It is customer service area thanks to which enterprises of electricity turnover will be able to achieve the competitive advantage. That is why the classical four-element conception of marketing-mix ("4 P" conception) in the energy enterprise marketing analysis was extended by an additional element – personnel behaviour [6, p. 109]. An extended set of marketing-mix instruments for the energy distribution enterprise presents Picture 1.

Price of the offered products is a vital element of marketing-mix of the enterprises functioning on the energy market. Energy enterprises do not always possess total freedom with respect to determining energy prices. Its range is limited by particular institutional solutions transferring decisions concerning price establishment outside the energy turnover enterprises. This situation is connected with the necessity of energy sector regulation, which is present, among others, in a certain range (bigger or smaller, depending on the selected solutions) of state's interference in the price establishment process. Energy enterprises operating in the new reality have to adjust in the best possible way their price structure to the various needs of their customers. The most frequently applied measures of price differentiation on the energy markets after the liberalization include [7, p. 12]:

- energy consumption (kWh, m3),
- power/pressure,
- time / day, year period,
- payment conditions, for example payment in advance or in arrears,
- packages integrated with other services or products,

- quality, for example reaction time in case of a failure,
- wear process,
- applications, for example various offers for various trades,
- type/size of customer,
- region, market share.

A very popular tendency among the energy enterprises is to extend the offer of the product – offering by energy enterprises a wide range of products and services both energy-related as well as totally outside from the previous interest area of the sector (so called service packages). According to such a strategy energy enterprises are transformed not only into multi-energy enterprises – providing various energy sources, but also into multimedia concerns – providing highly differentiated packages of services and products. As it can be observed in case of energy enterprises, the potential product may take the form of a substitute product (e.g. introducing electricity into the offer of gas enterprises), as well as a product complementary to the basic one – the energy carrier (e.g. sales of appliances – energy receivers).

In the situation of competition energy enterprises are forced to constantly search for new distribution channels for the products and services they offer as the traditional ones applied and learned in the monopoly reality or weak competition currently do not ensure proper sales effectiveness. In the energy sector more and more popular become:

- mailing,
- leaflets distributed by the field personnel,
- direct sales,
- the Internet,
- customer service points in shopping centres and supermarkets,
- call centres,
- installation workshops,
- etc.

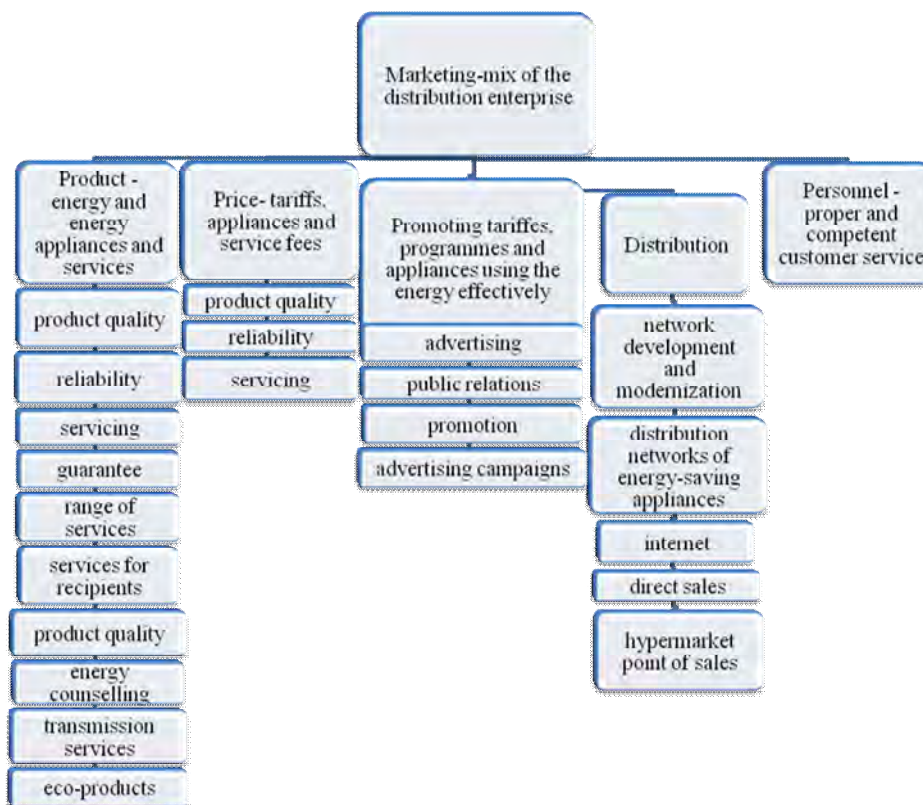


Fig. 1. The marketing-mix instruments for the energy distribution enterprise  
Source: [6, p.230]

Energy enterprises compete to attract customers using new technologies. PGE Obrót, a subsidiary of Polska Grupa Energetyczna (PGE) offers small companies an option to buy electricity through the auctioning service Allegro. PGE also improves customer call centres in order to shorten the time of waiting to be connected and make access to information easier for the customers. In February 2013 the company introduced the possibility to pay electricity bills while doing shopping (the bar code on the invoice is scanned at the checkout). The branch of the German concern RWE offers its clients a mobile application for iPads and iPhones [8].

In case of vertically integrated energy enterprises functioning, in the situation of a monopoly, these enterprises, if they applied marketing principles in their operations, they did not usually differentiate the marketing-mix composition among particular segments of customers. Usually, the only criterion of potential marketing activities differentiation was whether the customers belonged to the segment of households or industrial recipients. Within these segments, or even frequently with reference to the whole market range, energy enterprises treated customers as a homogenous group of homogenous needs and expectations. In connection with such a perception of the market the enterprises used to create a single standard offer for all customers, regardless of their actual needs, which in the state of monopoly were of little importance.

Together with market liberalization, as a consequence of:

- appearance of competition on the market and obtaining by the recipients the possibility to choose energy provider,
- division of vertically integrated energy enterprises into independent subject operating in the particular links of the energy chain,
- growth of customers' awareness and what follows, their expectations connected with the offer of energy enterprises,

further application of the strategy of non-differentiating marketing activities directed at particular groups of customers has become ineffective. An enterprise operating on the highly competitive market has to choose, out of various strategic options, the one which on the one hand is characterized by small risk level and on the other hand enables to maximize effectiveness. The choice of an effective, and at the same time realistic in given conditions, strategic option is determined by various factors, which should be thoroughly analyzed by the enterprise before the final decision is made, in consequence of which the enterprise will realize one of the alternative strategic solutions, taken by marketing strategies [9, p. 35].

The following factors influence particular marketing strategies applied by enterprises operating on liberalized energy markets:

- scope of operation,
- competitiveness level and company's position,
- company's size and area of operation,
- customer activeness and their willingness to change the provider,
- institutional solutions accepted on a particular market.

These factors may determine both application of differentiated marketing strategy or concentrated one (in case of for instance large energy distributors and small specialised energy trade companies), as well as the possibilities and the range of particular marketing-mix elements application.

Energy enterprises in the process of creating a permanent competitive advantage may also distinguish their offer on the market through [10, p. 277-279]:

- differentiating accompanying services (delivery, counselling, installation, training for recipients, repairs, servicing, etc.),
- differentiation with reference to the personnel (competences, politeness, credibility, reliability, reaction time, communicativeness),
- differentiation through image development (brand identity, visual identification system, atmosphere, events).

On the energy market enterprises may also use one of the four basic marketing strategies,[6, p. 223-224]: market penetration strategy, product development strategy, market development strategy, diversification strategy.

The market penetration strategy, in case of energy enterprises, is primarily connected with migration of customers to higher tariff groups – increased consumption by present recipients (e.g. persuading the customers to use electricity or gas for heating purposes, preparing meals or heating water). The options within this strategy are limited due to high market saturation, particularly in case of electricity.

The market development strategy offers a higher potential. Energy enterprises commonly attempt to create new markets through promotion of new energy applications (e.g. using electricity for propelling vehicles or specific industrial uses).

In the conditions of the competitive energy market enterprises pay special attention to the product development strategy and the diversification strategy. Within the confines of the product development strategy they offer, besides the basic product – namely energy – a wide variety of services both directly connected with the offered product (e.g. system services packages), and energy-related services (e.g. energy counselling).

The diversification strategy leads to transformation of energy enterprises into multienergy ones (offering various energy sources), and even "multimedia" ones (offering the whole range of "network" services).

Due to high differentiation of energy enterprises, both with respect to basic activity as well as activity targets, it is not possible to indicate one universal strategy, which would be the most appropriate. However, it is possible to formulate some general guidelines, application of which may contribute to the better adjustment of their operations to functioning on the liberalized market and obtaining permanent competitive advantage [11, p. 746-749].

**Conclusions and perspectives for further research.** The changes taking place in the energy trade are unavoidable. Market liberalization will be continued and it will cause introduction to the market newer and newer services and will also enable enterprises functioning on this market to compete with the price of offered products.

New technological and social directions of the electricity market development in Poland may prove vital for the future of this market. They include: implementing intelligent measuring and intelligent energy networks; predicted growth of importance of micro-sources, most frequently Renewable Energy Sources or co-generations as well as the growing role of prosumers in the energy sector.

Growth of market competition requires also much wider range and intensity of promotional activities, especially on the initial stage of market development. Enterprises new to the market need to inform customers that they exist and undertake activities aimed at persuading customers to their offer, while established companies struggle for retaining present customers and encouraging new ones. This is often connected with the necessity to change the image from the previous energy provider of "monopolistic roots" and perceived in this way level of services and customer care into a modern company, often a multienergy one, offering best quality services and customer orientated.

Energy enterprises must change completely their attitude to customers. Traditionally – when they were monopolists – these companies identified their customers from the side of the meter number at the end of the power line or gas pipeline. Presently, it is indispensable to learn the individual needs, preferences and expectations of customers and gather as much information on them as possible. The information may become initially transformed into knowledge on the customer, which may be used, among others, to predict their behaviour and more and more precise determination of target sectors. This is connected with application of more and more advanced systems of customer relation management (CRM) and data mining techniques.

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## ЛОГІСТИЧНА ІНФРАСТРУКТУРА В УКРАЇНІ: ЦИФРИ І РЕАЛЬНІСТЬ

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Розглянуто трактування логістичної інфраструктури у сучасній науковій літературі, складові елементи такої інфраструктури та різні трактування її сутності. Продемонстровано методи оцінки логістичної інфраструктури на певній території та доведено помилковість висновків про стан логістичної інфраструктури, які зроблені лише на основі статистичних даних.

**Ключові слова:** логістична інфраструктура, показники логістичної інфраструктури, методи оцінки.

## LOGISTIC INFRASTRUCTURE IN UKRAINE: NUMBERS AND REALITY

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The understanding of logistic infrastructure in modern scientific literature, consistent elements of this infrastructure and different interpretations of its essence are presented in the article. The methods of logistic infrastructure evaluation on the particular territory are demonstrated and the fallibility of conclusions about the state of logistic infrastructure that are made on the basis of statistic data are proved.

**Key words:** logistic infrastructure, indexes of logistic infrastructure, methods of evaluation.

**Problem formulation.** The developed logistic infrastructure is essential for the efficient functioning of the economy as an important factor in determining the location of economic activities as well as types of these activities that can be conducted in each case. Highly developed logistic infrastructure reduces the impact of distance between regions, provides integration of the national market and low cost communication with the markets of other countries and regions. Quality and development of infrastructure affect economic growth in various ways, reduce differences in income levels and contribute to poverty