

## Marketing Strategies in the Field of Electricity

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### Abstract

*The presence of electricity in any activity undertaken by any citizen, the importance of its efficient use in order to protect the environment and concern for future generations, are three important aspects that have been highlighted over time and from which the importance of this sector can emerge.*

*Due to its importance, the energy market involves, on the one hand, the analysis of the existence of electricity resources, and on the other hand the analysis of the entire stages completed from the moment of production to the final consumer.*

*Starting from these elements, the objective of this work is to contribute to the scientific research on the particularities generated by the electricity market, analyzing also the way of trading the electricity produced from renewable energy sources, but also the costs that it generates for consumers.*

**Key words:** marketing policies, electricity market, renewable energy

**J.E.L. classification:** M31, Q40, Q42

### 1. Introduction

One of the greatest challenges of the 21st century is to ensure the access of every citizen of the Planet to non-polluting, sustainable energy. Given that the production of energy from fossil sources causes environmental pollution, increases the danger to health, climate change, etc., the search for new alternative energy sources, the discovery of alternatives at the level of integration and management of energy units and systems, along with finding innovative solutions at the level of energy conversion and storage are the challenges that spread ahead of today's and tomorrow's generations.

The traditional energy sector deals with two major problems - the energy crisis and the impact on the environment, these two serious issues representing the current global problems of humanity.

Because the world is so energy dependent, since most of the Earth's population uses fossil fuels to meet their energy needs, which causes a high degree of environmental pollution, there is a strict need to look for new sustainable and environmentally friendly energy sources, noting the need to find energy sources that produce the least pollution. Because all traditional sources of energy used pollute the environment to a different extent, renewable energy is apparently directly lacking in this negative effect of environmental pollution.

Currently, the EU imports more than 53% of the energy it consumes, being at the same level as in 2006 (53.6%). Several variations were observed during this period: a relative peak of 54.5% was recorded in 2008, while 52.7% was the lowest dependence, recorded in 2010. The energy production is represented mostly by renewable sources, the main share being hydro, followed by wind and biomass. (Eurostat,2019)

Regarding the electricity produced, in the case of Romania we can talk about the highest share of fossil fuel sources (coal, gas) with 44.6%, followed by renewable sources with 37.5%, followed by nuclear energy by 17.9%. (INS, 2019)

As for the renewable energy sources, the hydro (23.1%) stands out much from the others, an important role being attributed to the company Hidroelectrică SA, followed by wind power plants (11.5%) and photovoltaic power plants. (2,9 %).

In most states, the price of electricity is freely formed by intersecting the demand with the supply, as in the case of trading the other goods or services. This leads to efforts to increase the efficiency of consumption as well as to increase investments in the development of new energy resources.

In Romania, the liberalization of the energy market has become a desideratum once with the accession to the European Union, starting from benchmarks such as eliminating regulated prices, increasing consumer protection, developing the competitive environment among the participants in the energy market.

## **2. Theoretical background and research method**

The reduction of energy consumption or the efficient use of energy has become one of the main concerns worldwide today. The continuous increase of the consumption determined by the dynamics of the industrial development meant a great pressure on the conventional energy resources, which is why the sustainable energy policy intends to ensure the balance between the security in energy supply and the protection of the environment.. (Băhnăreanu, 2010, p. 12-13).

About consumer behavior as a distinct field, it begins to be spoken in the mid-1960s, having as a basis contributions from different fields such as psychology, sociology, anthropology, etc. In the literature there are various definitions, the American Marketing Association describing it as "a dynamic interaction regarding impression and perception, behavior and common situations by which people direct their exchange activities." (Blithe, 1998, p.11)

At present, however, we can no longer talk about simple products that serve a mass population, about the exploitation of mass resources, or about consumers who are not informed. In this respect, competition has increased and has become tougher, consumers are informed and are launching quality demands, the cooperation between production and the market is made more complicated by the fact that it takes into account the available resources and the protection of the environment and, in this context, the relationship between marketing involves a strategic production planning oriented not only towards obtaining short-term profit, but also towards generating long-term value. Thus, in this context, it is appreciated that "the green opportunities will arise for companies and marketing people who can create new solutions that promise prosperity through environmental protection." (Kotler et al, 2010, p.147)

Now, humanity is covering its primary energy needs in the proportion of about 85% of coal, oil and natural gas, exhaustible and polluting resources, in particular through greenhouse gas emissions, which is the main cause of climate change. Hydro energy does not cover more than 7% of primary energy, and nuclear energy does not exceed 6.5%. In the short and medium term, there is no significant increase in the share of large hydro and nuclear power, especially after the Fukushima accident. The only energies whose share can and should grow massively in the coming years are renewable energy. (Badea et al, 2014, p. 2).

In this context, this work presents the main features of the electricity market, respectively shows an analysis of electricity production from renewable energy sources and identifies the particularities generated by the trading of energy.

In order to carry out this work, data from the official statistics of the European Union, the National Institute of Statistics and data published by the energy market regulator (ANRE) were used, data that were used and processed for the period 2011-2018. The methodology of this work was based on the qualitative and quantitative analysis of some indices and indicators that were processed and interpreted statistically. As far as the introduction part of the work is concerned, scientific papers from the analyzed area have been consulted.

## **3. Marketing mix in the field of energy products**

The purchase of any product or service implies a price that can be higher or lower, depending on several factors such as: the demand existing at a certain time for the particular good or service, the competition in the market on which the product or service is traded, the direct costs and indirectly, its objectives etc.

The distribution channels are compared with those pipes that ensure the transport of liquid or gaseous products from the producer to the filling stations, the last point from which they are taken over by the final consumers without affecting their environment and health conditions. (Danciu, 2006, p.214)

The route of electricity, similar to that of any product, from the producer to the final consumer, involves a series of related activities, among which are the transport, distribution and supply.

Applied marketing in the case of electricity does not involve only a simple production of energy efficient products, it must be involved in a well-defined promotion policy, so that these products capture the consumer's attention and are preferred by the final consumers to the disadvantage of the classic ones.

The success of a campaign to promote electricity comes only after a strong campaign by which the consumer is informed about the financial advantages brought by the change of the power supply operator.

The marketing policy defines the general framework of action of an organization, in order to achieve its objectives, being made up of a number of concrete strategies and tools of action (tactics).

In the case of electricity, given that the product itself has the same characteristics, the focus is on creating different packages according to the needs and habits of each consumer, depending on the energy consumption required. For example, energy suppliers offer end customers packages and subscriptions for the supply of electricity depending on the time interval in which the customer's consumption is higher or depending on the estimated amount of energy consumed.

Price is a main element of the marketing mix, which plays a fundamental role in terms of consumer behavior, this variable having a direct impact on the firm's market share, including its profitability.

In the energy field, the most common ways of fixing the sale price of energy are: fixing the price according to the production costs, fixing the price according to the demand shown on the market and fixing the sale price according to the competition.

Regarding the distribution of electricity, it becomes very important how the participants in the energy market participate in the realization and transfer of the product from the producer to the final consumer. A product should be made as close as possible to the place of consumption, in order to reduce the carbon footprint of the distribution and to support the local economy.

The realization of electricity at local level, as close to the place of consumption, brings benefits regarding the development of local production, but also for the environment, if it is to be taken into account their transport from the producer to the final consumer, which is realized in the case electricity over very long distances, which implies the recording of losses on networks.

The promotion of electricity resources is focused, especially in the case of energy providers, on the advertising element, an essential element of the promotion policy, and the most useful means of communication within advertising are the internet and audiovisual. About the Internet it is important to emphasize that "it is not just a means of promotion, but that it has become the most important way of communicating between a company and the target audience." (Epuran, 2015, p.61)

In the case of the distributors and the energy carrier, it cannot be about promotion for the purpose of growing the business, as long as they have a monopoly for the activities carried out in the area they serve, but of a promotion in order to increase the company's notoriety.

#### **4. Production of energy from renewable sources**

Electricity produced from renewable energy sources (E-RES) represents the electricity produced in power plants that use exclusively renewable energy sources (RES: water energy, sun energy, geothermal energy, biomass, wind energy, etc.), as well as the proportion of electricity produced from RES in multi-fuel power plants that use both RES and conventional energy sources.

At national level, through Law no. 220 / 27.10.2008 *for establishing the system to promote the production of energy from renewable energy sources*, the system of promoting the E-RES through green certificates was regulated by trading green certificates combined with the mandatory quotas of green certificates.

Under this normative act, in order to stimulate the production of electricity from renewable sources, the producers receive Green Certificates, these representing titles that certify the production of one MWh of electricity from renewable energy sources. Depending on the type of RES used, for 1 MWh a different number of CVs (between 0.5 CV and 6 CV) is granted.

Basically, green certificates are intangible assets granted to electricity producers from renewable sources, which can be traded separately from the amount of electricity it represents, on an organized market, under the law.

At the national level, the producers of electricity from renewable sources were financially supported, respectively they provide their income from:

- sale on the electricity market of the electricity produced;
- sale on the green certificates market of green certificates.

All these costs, respectively electricity and green certificates, are fully recovered and recovered from the energy consumers by billing the energy consumed by the suppliers..

The financial support from the producers of electricity from renewable sources under the state aid scheme was, in the period 2011-2018, amounting to 12.3 billion lei (2.738 billion euros), thus:

*Tabel no. 1. Evolution of the state aid granted to E-RES producers*

Period	State aid value (million lei)	State aid value (million euro)
2011	422,5	98,5
2012	1.354	303
2013	1.663	376
2014	1.750	394
2015	1.730	389
2016	1.882	419
2017	1.666	365
2018	1.834	394
<b>Total</b>	<b>12.301</b>	<b>2.738</b>

*Source:* author's processing based on data from ANRE Annual Reports

In this context, considering the fact that these costs are fully borne by the Romanian consumer, through the national legislation (GEO no. 88/2011) it was established that, until the national targets regarding the share of electricity produced from renewable energy sources were met in gross final consumption of electricity (33% in 2010, 35% in 2015 and 38% in 2020), commercialization of electricity produced from renewable sources benefiting from the promotion system to be realized only to cover the gross final consumption of energy power of Romania.

Although the legal framework for the protection of the Romanian consumers, namely their assurance that they pay for a product that they consume, has been created, in reality no regulations have been developed regarding the monitoring of the electricity production from renewable sources used to cover the national consumption of electricity, as well as for monitoring the electricity from RES for export.

In this sense, although the Romanian consumers pay the cost involved in the E-RES promotion system through green certificates, respectively they support the production of electricity from renewable sources, it is not possible to determine if this energy is consumed by these consumers or if this energy is exported.

## 5. Particularities in the trading of energy from renewable sources

The directly usable energy results in the effect of at least one or more successive transformations of the primary energy. It is a commodity, while its distribution (supply at the place of final consumption) is a service. The production and / or distribution of directly usable energy (electricity, heat, cold, mechanical energy, compressed air, etc.) can be, separately or together, a profitable activity (a business).

The specific aspect of the directly usable energy consists in the fact that the production and consumption are simultaneous, except when the accumulation or storage of the respective form of energy is firstly technically possible and secondly economic. Therefore, any energy supply contract is drawn up for a certain period and is concerned with the conditions under which the energy is to be supplied in the future.

Manufacturers, distributors, suppliers and many of the major energy consumers are organizations that operate on a commercial basis, so they can be included in the business category. As in any other profitable activity, these economic agents seek to maximize profit, minimize risk, consolidate their position on the respective market.

Regarding the market for electricity from renewable sources, depending on the way of trading, it is divided into:

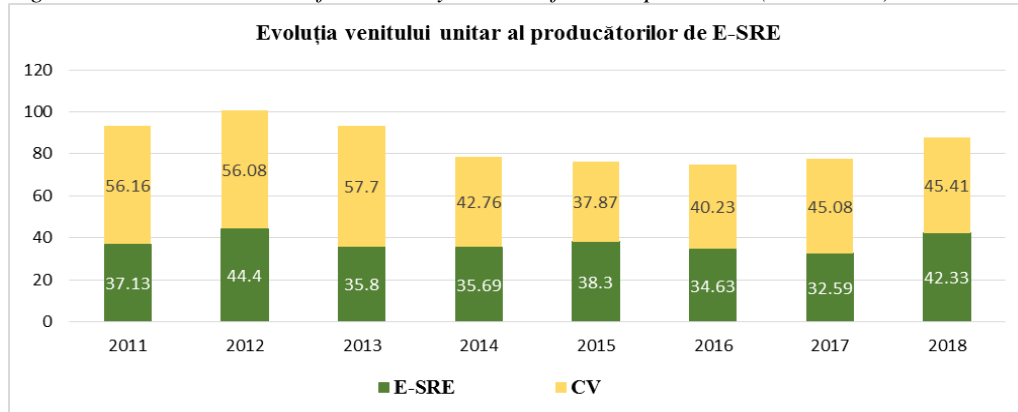
- the electricity market;
- the green certificates market.

The green certificates market is a separate market from the electricity market, where green certificates related to electricity from renewable resources that benefit from the promotion system are traded. In other words, energy producers earn revenue from selling green certificates to energy suppliers..

Selling green certificates to suppliers brings producers additional revenue to cover the costs of using renewable energy sources.

The unitary income of the E-RES producers who benefited from the promotion system in 2018 registered an average value of 88.74 Euro / MWh, respectively 412.92 Lei / MWh (calculated at the average value of the exchange rate of 4.6534 Lei / Euro established by the National Bank of Romania). The evolution of the unitary income realized by the E-RES producers, in the period 2011-2018, is presented as follows:

Figure no. 1. The evolution of the unitary income of E-RES producers (euro/MWh)



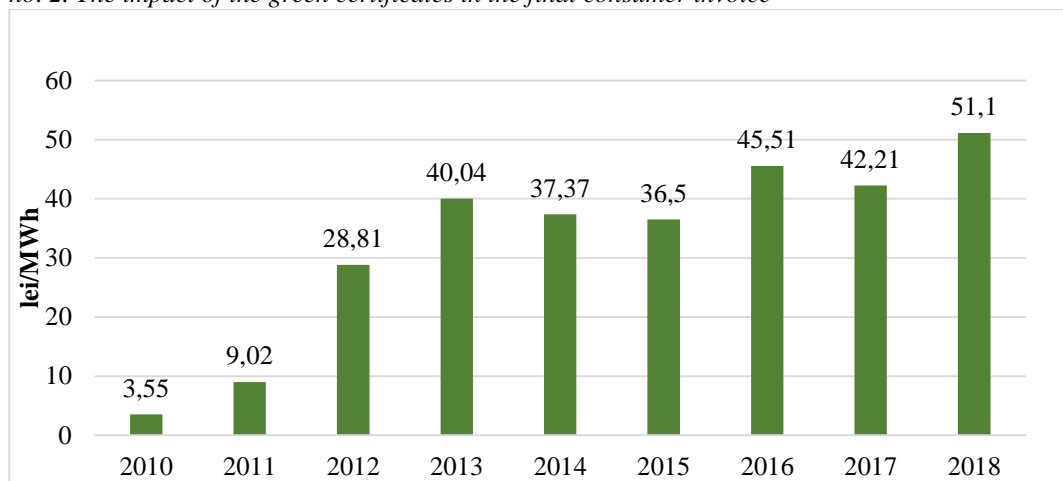
Source: author's processing based on data from ANRE Annual Reports

In the average annual income of E-RES producers, the largest share was represented by the revenues from the sale of green certificates, which in the period 2011-2018 were 55.1%, while the revenues from the sale of energy electricity accounted for 44.9%.

In fact, the energy consumer is the one who fully supports this support scheme, but without having at hand mechanisms to control the costs incurred by it, being dependent on the trading policy adopted by its supplier.

The impact of applying the electricity promotion system produced from renewable sources with green certificates, in the price of electricity included in the final consumer invoice, in the period 2010-2018, stood between 3.55 lei / MWh, in 2010, and 37.37 lei / MWh, in 2014, the evolution per year being in the sense of increasing more than 11 times in the period 2010-2013 up to the value of 40.04 lei / MWh, after which it registered an oscillating evolution, reaching in 2018 up to the value of 51.1 lei / MWh, as follows:

Figure no. 2. The impact of the green certificates in the final consumer invoice



Source: author's processing based on data from ANRE Annual Reports

Electricity and green certificates markets can be characterized by distinct periods, depending on the behavior of producers and suppliers, on the one hand, and that of consumers, on the other:

- the period until the total liberalization of the electricity market (01.01.2018) in which the trading of electricity from renewable energy sources and the trading of green certificates by the energy producers was characterized by the following aspects:

- in the situations where a large number of green certificates were not available in the energy market, the energy producers under the pressure of the expiration of the validity of these titles were forced to trade them at minimum prices;
- the energy consumers, although they were the ones who fully supported the final price of the green certificates, did not have any mechanism to intervene in order to force the supplier to act in terms of efficiency for the purchase of the green certificates;
- the electricity suppliers, although in this mechanism they are practically intermediaries, they played perhaps the most important role as the value of the total electricity price depended on how it acted in the market. In this first period, due to the lack of knowledge of the market mechanisms by the consumer, but also due to conservatism, the number of customers who chose to change their energy supplier was very small, the vast majority of consumers choosing to remain in contractual relations with the big suppliers.
- the period after the moment when the energy market was totally liberalized (01.01.2018), characterized by the following aspects:
  - orientation of the clients towards the research of the offers in the market and the renunciation of the offers proposed by the classical energy suppliers. The number of domestic consumers who left the regulated market and entered into new contracts, on the free market, has increased tenfold in the last year and a half, reaching almost 1.2 million consumers, their number increasing year by year.
  - orienting the energy suppliers towards identifying the needs of the consumer and creating offers that best meet the consumers' needs. During this stage, due to the increase in the knowledge and understanding of the energy market mechanisms by the consumers, the suppliers were determined on the one hand to be as efficient as possible regarding the purchase of electricity, and on the other hand - channeled efforts towards reducing total costs to reduce total costs, so as to offer consumers the most advantageous offers.
  - the energy producers, with the introduction of the obligation to trade electricity in a transparent, public, centralized and non-discriminatory way, have been oriented towards long-term transactions (sometimes ending transactions with a delivery term exceeding 1 year), in packages comprising Relatively small amounts of energy (5-10MWh).
  - the emergence of a new actor on the electricity market - the prosumer - this concept has been introduced since July 23, 2018, through the entry into force of Law no. 184/2018. The prosumer is the natural person or entity that, at the same time, produces electricity and consumes, in whole or in part, the electricity thus produced. The electricity produced in excess of the consumption needs or, as the case may be, the electricity consumed in addition to the quantity produced is sold to, respectively, purchased from the electricity supplier with whom the prosumer has concluded a contract for the supply of electricity.
- the period of entry into force of GEO 114/2018, characterized by the following aspects:
  - for the period March 1, 2019 - February 28, 2022, for domestic customers the supply of electricity is carried out under regulated conditions, by ANRE (the same ones that were applied until the end of 2017).
  - although starting from 2019 we are witnessing a re-regulation of the electricity market through which some of the largest producers (Hidroelectrica SA, Nuclearelectrica SA, OMV Petrom SA) have the obligation to deliver to the suppliers of last instance electricity to regulated price of type production price plus 5% profit, and the final supply price was also frozen, the total number of consumption places for final customers served by the Last resort Suppliers decreased by 13.97% in the II quarter of 2019 (6,428,336 customers) compared to the same period of 2018 (7,446,384 customers) and 2.04% compared to the first quarter of 2019. This trend is mainly determined by the domestic customers who migrated in the competitive market, as a result of the specific offers dedicated to this segment promoted by the suppliers active in the competitive market. (ANRE, 2019)

## 6. Conclusions

The future of marketing in terms of electricity requires more and more attention, which must be paid by both marketing specialists and operators involved in trading these products.

Dialogue, transparency, ownership and risk-taking are key elements leading to the emergence and maintenance of sustainable economic growth for every player in the market. Above these elements, it is very important for each participant in the energy market to be aware of how important the long-term benefits of the functioning of the energy market in terms of competition and transparency are.

Thus, in the context of frequent changes occurring at national level within the energy market and the further development of this sector, participants in this market must practice and encourage policies based on competition, honesty and transparency, so that all participants in market to meet its goals.

Consumers of energy-efficient products (which help to protect the environment), are those involved in the process of producing the products, have the quality of a prosumer, are aware of their value and the important role they play in making those products that are as beneficial to them as they are. and the environment.

Electricity providers must focus on identifying the real needs of consumers, must create packages of products that adapt to the demands of consumers who have become increasingly attentive to the choice of suppliers, gather information and perform analyzes on the tariffs applied by them. Attracting a supplier to a client in the portfolio can be akin to participating in a tender where you have to be competitive not only as a price, but also as an approach, as a service package.

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