ELIMINATING THE REGULATED ELECTRICITY TARIFFS AT END-USERS

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ABSTRACT

This paper addresses the electricity market participants, focusing on consumers.

A timetable for the elimination of regulated tariffs has been established for the non-domestic customers and for the domestic customers.

Romanian Energy Regulatory Authority undertakes the task to draw up innovative regulation for the eliminating regulated tariffs at the end-users who did not want to use the eligibility right.

The paper intents to describe a new tariff design for the period of elimination of regulated tariffs at these end-users.

INTRODUCTION

In Romania, the electricity market is composed of the regulated market and the competitive market [1].

In order to observe the European and national legislative provisions, it is necessary to increase the share of the competitive market. This will be possible by ensuring the access to this market for as more and more participants, producers, network operators, suppliers and consumers as possible, and eliminating the regulated electricity tariffs at customers accordingly.

The transition from regulated tariffs to negotiated prices should be made on a transparent basis and the electricity purchase for end-users should be concluded on the electricity centralized markets [1].

ACTUAL DEGREE OPENING OF ELECTRICITY MARKET

In Romania, there are about 9 million electricity end-users, but a small number refers to the eligible customers. The majority of customers chose to remain captive. The captive consumers continue to pay the electricity at regulated tariffs.

Regarding electricity consumption structure of the end-users, consumption achieved of the regulated market and the competitive market, for *the first two quarters of 2012*, is presented in Table 1, [6]:

The evolution of electricity consumption of consumers who have used the eligibility right, renouncing regulated

Electricity consumption,	01.01.-30.06.2012	
from:	TWh	%
Regulated market	**10,45**	45,65
household	6,02	26,30
non-household	*4,43*	19,35
Competitive market	**12,44**	54,35
household	0,0013	0,01
non-household	*12,44*	54,34
Total consumption	**22,89**	100

Table 1 - Structure of electricity consumption

tariffs, relative to the total consumption is presented in Fig. 1, [6]. It may be noted that *in June 2012*, the share of electricity consumption of eligible customers is 58% of total consumption.
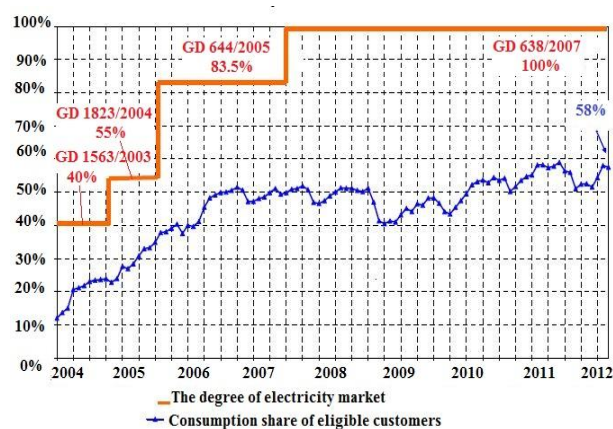

Fig.1-Evolution openness of the electricity market in January 2004 - June 2012

NEW TARIFF DESIGN

Considering the above, Regulatory authority elaborated a new tariff methodology. Based on this methodology can eliminate regulated tariffs gradually, transparent and non-discriminatory at end-users who did not want to use the eligibility right.

Romanian Energy Regulatory Authority (ANRE) sets regulated tariffs for the end-users who did not use their eligibility right, by assigning electricity purchase structures for the supplier of last resort, based on their

regulated power supply/purchase contracts.

The innovative regulation consists in the fact that, based on the new tariff methodology, the electricity bill contains two tariffs for the end-users who did not use their eligibility right.

Until the complete elimination of regulated tariffs at end-users, the electricity bill contains:

a) a regulated tariff that is applied to the amount of electricity purchased on the regulated market;

b) a new tariff, named *competitive market component (CMC)*, that is applied to the amount of electricity purchased from the competitive market. This new tariff is applied by the suppliers of last resort to the domestic and non-domestic customers who did not use their eligibility right, correlated to a timetable for elimination of regulated tariffs. This timetable is a document that is part of the Memorandum of Understanding between the European Commission and the Romanian Government, which specifies the stages for the elimination of regulated tariffs for electricity at end-users [4]. The timetable stipulates elimination of the regulated tariffs for non-household customers until December 31, 2013 and for household customers until 31 December 2017.

DESCRIPTION OF THE MODEL

The main purposes of this methodology are [2]:

- to determine the regulated electricity tariffs applied to end-users who did not use their eligibility right;

- to determine the new electricity tariff, CMC, applied to end-users who did not use their eligibility right.

Determine the regulated tariffs for the end-users who did not use the eligibility right [2]

In order to determine the regulated tariffs for end-users, the following estimations have to be made:

- Projected cost (C_P) of the electricity supplied to end-users who did not use the eligibility right

- Projected income (V_P)

Structure of the electricity projected cost (C_P)

The projected cost (C_P) is calculated with the following formula:

$$C_P = C_{PP} + C_{PT} + C_{PSS} + C_{POM} + C_{PD} + C_{PS}$$

where,

C_{PP} - projected purchase cost for electricity

C_{PT} - projected cost for the power transmission service

C_{PSS} – projected cost for the power system services

C_{POM} – projected cost for the service supplied by the operator of the centralized market to the participants to the markets managed by it

C_{PD} - projected cost for the power distribution service

C_{PS} - projected cost for the power supply service.

Projected purchase cost (C_{PP}) for electricity

It is calculated with the formula:

$$C_{PP} = \sum_i (p \times E_i)$$

where,

   p – electricity purchase price
   E_i *– electricity projected to be purchased by the suppliers of last resort*

The sum of electricity quantities projected to be purchased (E_{PP}) by the suppliers of last resort is defined as:

$$\sum_i E_i = E_{PP}$$

Structure of the electricity projected income (I_P)

It is calculated with the formula:

$$I_P = C_P + P_{RP} \pm \Delta B$$

where,

C_P – projected costs
P_{RP} – regulated profit of the activity of power supply
ΔB – income difference (correction) that has to be recovered or subtracted from the previous stage

The projected income (I_P) set as above has to be obtained from the sale of electricity, by means of applying the types of electricity regulated tariffs to end-users who did not use the eligibility right.

The regulated tariff for electricity represents the set of prices (named tariff components) for electricity, resulted from a complex process of annual costs allocation caused by the supply of one or more regulated activities/services.

For each supplier of last resort, ANRE approves regulated tariffs for the electricity supplied to end-users who did not use the eligibility right, both for non-domestic clients and for domestic ones.

The Competitive Market Component Tariff [2]

The competitive market component tariff is based on the costs for the purchase *of a quantity of electricity* from the competitive market, estimated by the suppliers of last resort, to which are added the costs for related services, such as: transmission service, system service, services supplied by the operator of the centralized market, distribution service, supply service.

The quantity of electricity that has to be purchased from the competitive market, mentioned above, is set by the supplier of last resort, by applying a subunitary rate k_1 / k_2, correlated with the stage of elimination of regulated tariffs provided in the timetable and with the category of non-domestic or domestic customers, to the quantities of electricity projected to be consumed over that period.

The *quantity of electricity* purchased from the competitive market, thus determined, will be supplied to the end-users.

The invoice for each end-user will include that part of the *quantity of electricity* purchased from the competitive market, determined by applying the k_1 / k_2 rate to the quantity of electricity consumed during the billing period, by that customer, correlated with the stage of elimination of regulated tariffs provided in the timetable and with the category of non-domestic/domestic customers.

k_1 – subunitary rate, with a value equal to the percentage of elimination of regulated tariffs at the non-domestic customers;

k_2 – subunitary rate, with a value equal to the percentage of elimination of regulated tariffs at the domestic customers;

On the customer's invoice, the CMC tariff is applied to the quantity of electricity purchased from the competitive market.

The suppliers of last resort calculate the CMC tariffs, for each stage of elimination of regulated tariffs, distinctly on the three voltage levels, and submit them to ANRE, for approval.

Practical example:

- For the first stage of elimination of regulated tariffs for electricity at end-users, the timetable mentioned above established that the rate of purchase of electricity from the competitive market should be 15%.

Thus, if a customer consumes 100 kWh within the billing period, the electricity invoice shall comprise two parts:

- 85 kWh priced at the regulated tariff chosen by the customer,

- 15 kWh priced at the CMC tariff.

- For the second stage of elimination of regulated tariffs for electricity at end-users, the timetable mentioned above established that the rate of purchase of electricity from the competitive market should be 30%, and so on, progressively, until full elimination of regulated tariffs.

The option was to introduce the obligation for suppliers who apply regulated tariffs to purchase a certain quota of the quantity of electricity from the competitive market, quantity that is to be sold in a non-discriminating manner, according to the new pricing methodology, to all the end-users who did not wish to use the eligibility right.

This method of elimination of the regulated tariffs has the following advantages [3]:

  i. It reflects the electricity supplier's performance on the competitive market;

 ii. It informs the customer on the existence and the evolution of the competitive market, including the performance of their supplier;

iii. It reduces the supplier's financial risk, considering the possibility to update the tariff component on a quarterly basis, which reflects the cost of electricity purchase in a competitive system;

 iv. It allows to implement gradually the competitive prices for each type of customer, avoiding swift and significant price increases for the electricity end-users;

  v. It does not generate shocks related to the increase of prices on the wholesale electricity market.

ACTIONS THAT THE REGULATORY AUTHORITY SHOULD TAKE IN ORDER TO ELIMINATE REGULATED TARIFFS AT END-USERS [5]

With a view to eliminate the regulated tariffs at end-users, the Regulatory Authority should take the following steps:

- notify the participants to the electricity market about the stages of elimination of regulated tariffs;

- post on own web site the CMC tariffs approved for each supplier of last resort, for every stage of elimination of regulated tariffs provided in the timetable;

- draw up annual questionnaires for assessing the effects of liberalization of the retail market according to the timetable, which will be sent by the suppliers to the end-users;

- make public research polls related to the customers' degree of awareness regarding the possibilities to choose

the supplier;

- evaluate the impact of giving up regulated tariffs for the consumer categories, in order to identify the possible distortions and propose correction measures, if needed.

INFORMATION THAT THE SUPPLIERS OF LAST INSTANCE SHOULD MAKE AVAILABLE TO CUSTOMERS IN ORDER TO COMPARE THE OFFERS ON THE COMPETIVIVE MARKET [3]

In order to inform the customers, the electricity suppliers should make available to the customers a requisite volume of information, to allow comparison between purchase offers for the quantities of electricity on the competitive market.

The suppliers of last instance should post on their own web sites a minimum volume of information that should be accessible to the electricity consumers, such as:

- supplier's technical and financial capacity;
- electricity price, according to the voltage level;
- offer's validity period;
- regulated tariffs related to transmission service, system service, services supplied by the operator of the centralized market, distribution service;
- CMC tariffs approved by ANRE;
- means of payment;
- frequency of reading the electricity meters;
- billing periodicity and payment terms.

CONCLUSIONS

The elimination of regulated electricity tariffs must be done transparently and non-discriminatory for end-users who did not want to use the eligibility right.

The gradual opening of the electricity market was a prudent approach enabling observation and amendment the effects on the conditions of supply for captive consumers, the behavior of producers and suppliers and for the development new management tools market. To support this process, ANRE develop an information campaign for customers.

The end-users should have the possibility to compare the CMC tariffs applied by each supplier of last option, and to choose their power supplier accordingly.

ANRE publishes monthly on its web site, the reports regarding results of functioning the electricity market in Romania.

The model for the new tariff design and the market mechanisms should observe simultaneously the following restrictions:
- minimizing the impact on consumers;
- minimizing the impact on the centralized markets.

The innovative regulations should prevent any possible distortion on the electricity market, and most of all should not allow prohibitive electricity prices for certain categories of consumers or in certain geographical areas.

Also, it is necessary to understand and to apply the principles related to coexistence of the liberalized market concept with the public service obligation concept, imposed by European directives concerning common rules for the internal electricity market.

REFERENCES

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[3] *Report regarding the elimination of regulated tariffs at non-domestic end-users who do not use the eligibility right - period 01.09.2012 – 31.10.2012*, published on www.anre.ro

[4] *Roadmap for the liberalization of electricity market according to the Memorandum approved by the Romanian Government – Table 1 – Time-schedule for the elimination of regulated electricity tariffs*, published on www.anre.ro

[5] *Roadmap for the liberalization of electricity market according to the Memorandum approved by the Romanian Government – Table 2 – Programme of measures*, published on www.anre.ro

[6] ANRE, *Report on the results of monitoring the electricity market in June 2012*, published on www.anre.ro