

# THE LIBERALIZATION OF THE ELECTRICITY AND GAS MARKETS - TOP PRIORITY FOR THE ROMANIA'S ENERGY SECURITY

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## Abstract

Currently, the diminution of the essential resources both nationally and internationally is a problem that world economies will have to find solutions. This will require thus rethinking their management to create a new economic and social dynamic. In order to achieve an internal European energy market competitive and functional, Commission and European Parliament issued the third legislative package for the construction of this legal framework. The main purpose is the separation of the competition areas from those areas that constitute natural monopolies and regulated prices but also the utilization of the advantages that first can bring through optimal use of resources.

Under the new European regulations, it becomes a necessity and a priority for Romania to take adequate political, legislative and administrative measures to reduce the pressure on the final consumer of energy (whether it is domestic or non-domestic consumers) and to decrease the number of vulnerable consumers.

**Keywords:** vulnerable consumers, energy poverty, energy efficiency, public services, energy security

**JEL Classification:** I38, Q31, Q47

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## Introduction

European Union's Third Energy legislative Package consisting of two Directives (Directive 2009/72/EC and Directive 2009/73/EC and three Regulations (Regulation (EC) No 713/2009; Regulation (EC) No 714/2009; Regulation (EC) No 715/2009). Also, this legislative package establishes new European Union (EU) institutional entities (ACER - Agency for Cooperation of Energy Regulators, ENSO-E and ENTSO-G) which are necessary for a better coordination of regulators and respectively of the transport operators from the system.

According to Leca (2014) "This legislative package developed by the European Commission and Parliament has several obvious advantages such as consumer power to choose, exploiting the competitive potential, strengthening of the independence of national regulators and network operators, development of specific stock exchanges, but also a series of risks and difficulties to be taken into account in the implementation process and can have serious economic and social importance" (SPOS 2013, Study no 1, 2014, p 11).

Given the changes that occur worldwide and European, Romania is obliged according to climate and energy targets for 2030 (2030 Energy Strategy), for a competitive, secure and

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low greenhouse gas emissions to establish clearly its main objectives and to define its priorities for action - Romania following to act in the context of a free market.

### **1. Brief history**

In this international context, the Department of Energy from the Romanian Ministry of Energy, SME and business launched in public debate The National Energy Strategy for the period 2015-2035, the deadline for completion of the review of Romania's energy strategy being May 2015. Romania currently has a national energy strategy adopted in 2007 and valid until 2020. The document under discussion is an analysis of the national energy system and the commitments made by Romania, as member state of the European Union.

New energy strategy objectives are to ensure energy security and economic development - social, in the context of future energy demand growth, economic competitiveness by maintaining a bearable price to final consumers and protect the environment by limiting climate change.

In order to face new challenges, Romania, according to the draft energy strategy will be to pursue a diversified energy mix, balanced, effective use of all domestic primary energy resources and modern technologies that allow long-term use fossil fuels with low greenhouse gas emissions, renewable energy and nuclear energy.

### **2. Romania's energy security**

Romania's energy security should be viewed in the context of the following statistical data provided by European Statistical Office (Eurostat).

The states of the European Union the least dependent on energy imports in 2013 were Estonia (11.9%), Denmark (12.3%) and Romania (18.6%), and the countries with the highest level of dependence were Malta (104%), Luxembourg (96.9%) and Cyprus (96.4%).

Romania is one of the least energy dependent countries. Import dependence was 22% in 2010 against an EU average of 54%, and compared to 29% in 2006. The energy mix is one of the most diversified in the EU and it has shown improvements between 2006 and 2010 (European Commission, 2013).

But what means energy dependence? According to Eurostat Energy dependency is a concept related to the gross inland consumption which represents the quantity of energy necessary to satisfy the energy needs of a country or a region. The ratio between net imports and gross inland consumption indicates the ability of a country or region to meet all its energy needs. In other words, it shows the extent to which a country or a region is dependent on energy imports.

Based on Eurostat, in 2013, the gross energy consumption in the EU stood at 1.666 billion tonnes of oil equivalent, down by 9.1% compared to the record level of 1.832 billion tonnes of oil equivalent recorded in 2006.

Romania's total primary energy production in 2013 (26.1 million tonnes of oil equivalent) was lower than that of the Czech Republic (29.9 million tonnes of oil equivalent), but higher than Bulgaria's (10.5 million tonnes of oil equivalent) and Hungary's (10.1 million tonnes of oil equivalent).

Out of Romania's total primary energy production, in 2013, 17.8% were solid fuels, 16.3% oil, 32.9% natural gas, 11.5% nuclear energy and 21.3% renewable energy sources.

**Tabel no 1 Gross inland energy consumption in the EU**

	Gross inland energy consumption, in Mtoe						Energy dependency, 2013
	1990	2000	2006	2011	2012	2013	
EU	1 667.3	1 726.9	1 832.2	1 698.0	1 685.8	1 666.2	53.2%
Belgium	48.7	59.3	58.0	57.8	54.8	56.7	77.5%
Bulgaria	27.6	18.5	20.4	19.1	18.2	16.8	37.8%
Czech Republic	49.9	41.1	46.3	43.0	42.8	42.2	27.9%
Denmark	17.9	19.7	21.0	18.6	18.0	18.1	12.3%
Germany	356.3	342.3	351.7	316.7	318.6	324.3	62.7%
Estonia	9.9	5.0	5.5	6.2	6.1	6.7	11.9%
Ireland	10.3	14.4	15.6	13.9	13.8	13.7	89.0%
Greece	22.3	28.3	31.6	27.8	27.7	24.4	62.1%
Spain	90.1	123.6	144.4	128.2	127.7	118.6	70.5%
France	227.8	257.6	273.0	258.0	258.3	259.3	47.9%
Croatia	9.0	7.8	8.9	8.5	8.1	7.8	52.3%
Italy	153.5	174.2	185.3	172.0	166.3	160.0	76.9%
Cyprus	1.6	2.4	2.6	2.7	2.5	2.2	96.4%
Latvia	7.9	3.9	4.8	4.4	4.5	4.5	55.9%
Lithuania	15.9	7.1	8.5	7.0	7.1	6.7	78.3%
Luxembourg	3.5	3.7	4.7	4.6	4.5	4.3	96.9%
Hungary	28.8	25.3	27.5	25.1	23.6	22.7	52.3%
Malta	0.6	0.8	0.9	0.9	1.0	0.8	104.1%
Netherlands	66.7	75.6	79.5	80.2	81.8	81.2	26.0%
Austria	25.0	29.0	34.5	33.6	33.7	33.8	62.3%
Poland	103.3	88.6	96.9	101.0	97.8	98.2	25.8%
Portugal	18.2	25.3	26.2	23.6	22.5	22.6	73.5%
<b>Romania</b>	<b>58.1</b>	<b>36.6</b>	<b>40.6</b>	<b>36.6</b>	<b>35.4</b>	<b>32.3</b>	<b>18.6%</b>
Slovenia	5.7	6.5	7.3	7.3	7.0	6.9	47.0%
Slovakia	21.8	18.3	18.9	17.4	16.7	17.3	59.6%
Finland	28.7	32.5	37.6	35.8	34.7	33.9	48.7%
Sweden	47.4	48.9	49.6	49.7	49.8	49.1	31.6%
United Kingdom	210.6	230.6	230.5	198.0	202.9	201.1	46.4%
Norway	21.4	26.4	27.6	28.5	29.7	33.7	-470.3%
Montenegro			1.2	1.1	1.1	1.0	26.5%
FYR of Macedonia	2.4	2.7	2.9	3.1	3.0	2.7	47.9%
Albania	2.6	1.8	2.1	2.3	2.1	2.6	25.1%
Serbia	19.6	13.7	16.7	16.2	14.6	15.1	23.5%

Source: Eurostat, 2015. *Energy production and consumption in 2013*. Press release, 9 February 2015

**Tabel no 2 Primary production by energy type, 2013**

	Total primary production (in Mtoe)	of which (shares):					
		Solid fuels	Oil	Gas	Nuclear	Renewable sources	Wastes (non-renewable)
EU	789.7	19.7%	9.1%	16.7%	28.7%	24.3%	1.5%
Belgium	14.6	0.0%	0.0%	0.0%	75.2%	20.0%	4.8%
Bulgaria	10.5	45.4%	0.3%	2.1%	34.8%	17.3%	0.1%
Czech Republic	29.9	59.0%	0.9%	0.7%	26.6%	12.2%	0.7%
Denmark	16.6	0.0%	52.3%	25.8%	0.0%	19.5%	2.4%
Germany	120.6	37.4%	3.1%	7.4%	20.8%	27.9%	3.4%
Estonia	5.7	78.3%	0.0%	0.0%	0.0%	19.9%	1.9%
Ireland	2.3	56.9%	0.0%	6.8%	0.0%	33.7%	2.5%
Greece	9.3	72.3%	0.8%	0.1%	0.0%	26.7%	0.2%
Spain	34.2	5.1%	1.1%	0.1%	42.7%	50.5%	0.4%
France	135.1	0.0%	0.9%	0.2%	80.9%	17.1%	0.9%
Croatia	3.6	0.0%	16.8%	41.6%	0.0%	41.4%	0.2%
Italy	36.9	0.1%	15.9%	17.2%	0.0%	63.7%	3.1%
Cyprus	0.1	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%
Latvia	2.1	0.1%	0.0%	0.0%	0.0%	99.7%	0.2%
Lithuania	1.4	1.7%	6.2%	0.0%	0.0%	91.1%	1.1%
Luxembourg	0.1	0.0%	0.0%	0.0%	0.0%	76.4%	23.6%
Hungary	10.1	15.9%	8.5%	15.3%	39.3%	20.5%	0.5%
Malta	0.0	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%
Netherlands	69.7	0.0%	3.1%	88.7%	1.1%	6.2%	0.9%
Austria	12.1	0.0%	7.2%	9.3%	0.0%	78.2%	5.3%
Poland	70.6	80.5%	1.4%	5.4%	0.0%	12.1%	0.6%
Portugal	5.8	0.0%	0.0%	0.0%	0.0%	97.5%	2.5%
<b>Romania</b>	<b>26.1</b>	<b>17.8%</b>	<b>16.3%</b>	<b>32.9%</b>	<b>11.5%</b>	<b>21.3%</b>	<b>0.2%</b>
Slovenia	3.6	30.3%	0.0%	0.1%	38.5%	30.2%	1.0%
Slovakia	6.4	9.1%	0.2%	1.6%	64.1%	22.9%	2.1%
Finland	18.0	9.4%	0.4%	0.0%	33.8%	55.2%	1.2%
Sweden	34.7	0.5%	0.0%	0.0%	49.4%	48.4%	1.7%
United Kingdom	109.5	6.7%	38.3%	30.0%	16.6%	7.7%	0.7%
Norway	193.9	0.6%	43.5%	49.3%	0.0%	6.4%	0.1%
Montenegro	0.8	48.9%	0.0%	0.0%	0.0%	51.1%	0.0%
FYR of Macedonia	1.4	77.9%	0.0%	0.0%	0.0%	22.1%	0.0%
Albania	2.0	0.0%	57.9%	0.7%	0.0%	41.4%	0.0%
Serbia	11.4	67.4%	10.8%	3.7%	0.0%	18.1%	0.0%

Source: Eurostat, 2015. *Energy production and consumption in 2013*. Press release, 9 February 2015

### **3. The liberalization of the electricity and gas markets. Causes and effects**

Prices for electricity and natural gas supplied to households have entered into a process of liberalization on 1 July 2007, in Romania and in other 12 EU countries.

In Romania, the deregulation of electricity prices will be carried out in six stages for industry and households in ten steps, the deadline being June 2017. Natural gas prices will be deregulated for industry and households until December 2018.

Thus, in the context of commitments made by the Romanian Government to the International Monetary Fund (IMF), European Commission and World Bank, through preventive settlement agreements since 2011 and the memorandum approved by the Government on 6 June 2012, the liberalization domestic natural gas market for non-household customers is also part of this calendar which ended on 31 December 2014. According to the timetable agreed with the International Monetary Fund (IMF) on the basis of the Memorandum approved by the Government on 6 June 2012 and following the step by step removal of regulated prices for domestic production the domestic gas price will be equal to the price of imported natural gas. Thus, from the point of view of pricing, there will no be regulated prices.

In Romania, the gradual opening of the electricity market officially began in 2000. Under current legislation, the electricity market was fully liberalized since 1 July 2007 (according to Government decision no. 638/2007) when all consumers became eligible to change electricity supplier. The supply of electricity to final customers under regulated regime continued after the official liberalization of the market in 2013, 43% of final electricity consumption being regulated. Annual evolution of the openness of the retail market is represented in the chart below.

In order to accelerate the liberalization of the electricity market it was established a timetable for liberalization of the electricity purchase prices for both households and industrial users. According to the timetable for liberalization the regulated market in Romania will be changed by 2018.

Calendar of phasing out regulated prices for end customers is presented in Law no. 123/2012 electricity and natural gas. Law is, in fact, transposition into national law of European Directives 72/2009 and 73/2009 single market for electricity and gas market and, respectively, adjacent regulations.

It is a fact that, currently, in Romania there are found some of the lowest prices for electricity and gas in the EU. According to official data, electricity is cheaper by 30% than the EU average and by 150% gas, manufacturing companies in Romania enjoying a far cheaper energy than the rest of the EU as it can be seen in Figure no 1 and Figure no 2.

This gives them a competitive advantage that can be interpreted in some cases as State aid, and in others as dumping. As a result, the big difference in price between Romania and the EU must be reduced by the liberalization process that is slower for population (2012-2018) and faster for industry sector (2012-2014). In particular, in the case of natural gas, domestic gas prices would have to reach the average prices in the region, which means an increase of about 160%.

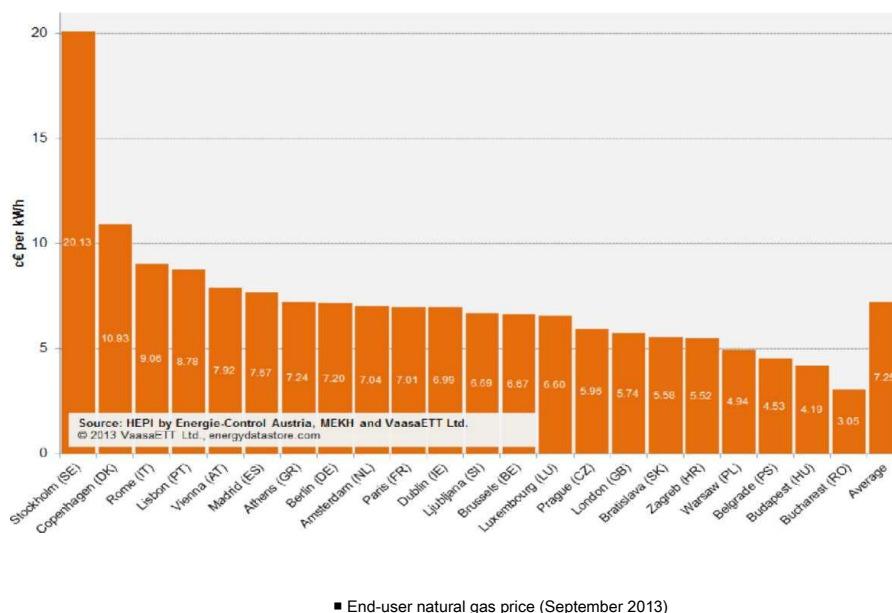
In order to achieve an internal European energy market competitive and functional, Commission and European Parliament issued the third legislative package for the construction of this legal framework. The main purpose of the competition is the separation from those areas that constitute natural monopolies and regulated prices and taking advantage of that first can bring through optimal use of resources.

Thus, Romania as a EU Member State must comply legislative measures adopted at European level by bringing existing dysfunctions and promoting his own interests in the field.

According to official data provided by ANRE, in 2013, domestic production of natural gas accounted for about 85% of domestic consumption, the difference of 15% being covered by imports. Thus, Romania has a unique position in the region, limited dependence on foreign sources of natural gas, which is the largest natural gas producer in Central and Eastern Europe (The National Energy Strategy for the period 2015-2035, p. 19).

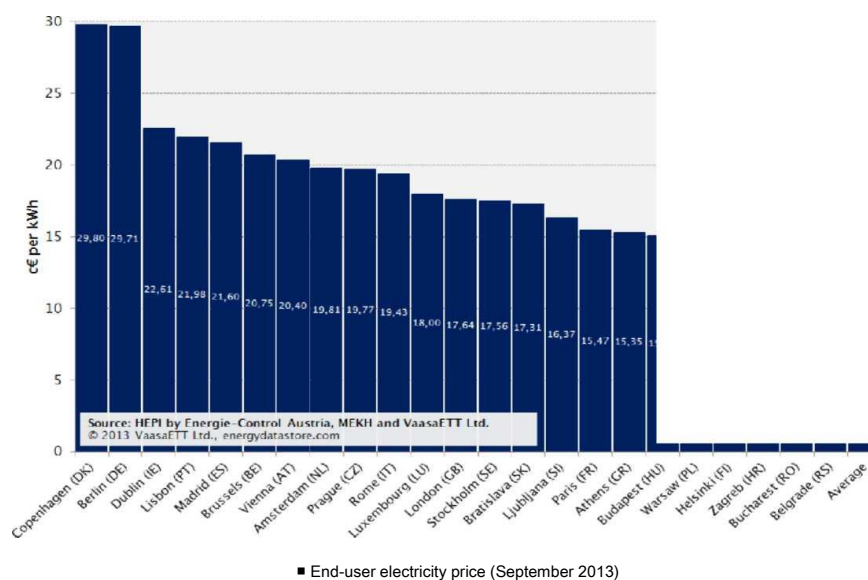
In terms of electricity production in 2013, Romania took first place in South-East Europe as the total capacity of installed electricity production, raw power installed capacity of electricity generation in Romania exceeding 23 GW in while net production capacity was approximately 18 GW (Annual Report Transelectrica 2013, Transelectrica database cited in The National Energy Strategy for the period 2015-2035, 2015, p. 48).

**Fig no 1 Prices of natural gas to residential consumers (including taxes) IX. 2013**



Source: SPOS 2013, *Study no 1*, Bucharest 2014, p. 27

**Fig. no 2 Prices of electricity to residential consumers (including taxes) IX.2013**



Source: SPOS 2013, *Study no 1*, Bucharest 2014, p. 26

#### 4. Energy poverty

The liberalization of the electricity and gas markets will put pressure on the final consumer of energy (whether it is domestic or non-domestic consumers) and will increase the number of vulnerable consumers and raises the issue of population affordability, another category, alongside industrial consumers, which will be directly affected. According to Leca (2014) "the electricity and gas market liberalization must take into account the low purchasing power that characterizes the Romanian population, which leads to an alarmingly high degree of vulnerability" (SPOS 2013, Study no 1, 2014, p 123).

A key aspect regarding the sensitivity analysis of consumers to the forecasted developments electricity and natural gas price is the ability to pay thermal energy bills by final consumers. Although energy consumption per dwelling has decreased over the past few years, in 2010 Romanian households were still among the five most energy-intensive of the EU. The weight of energy items in the consumer's basket is among the highest in the EU - 17% in 2010 (European Commission, Occasional papers 145, April 2013).

Consumption per dwelling for space heating has decreased at a higher rate than the EU average (- 2.9% from 2000 to 2008 versus -1.2% for EU average). Finally, consumption per dwelling is below the EU average and has decreased more rapidly than in the EU27 (-1.9% between 2000 and 2008 against -0.7% in the EU27). Thus, according to Leca (2014), if the European Union "energy poverty" (respectively, the percentage of family income to ensure energy comfort decent condition) is 18-20%, in Romania the value is over 40% (monthly income over 2,000 lei for 16% of the population between 1000 and 2000 lei for 34% and 50% below 1000 lei).

**Table no 3 Thermal energy prices in Europe and considering PPP (Purchasing Power Parity)**

Country	Heat price	Heat price considering PPP compared with the situation from Finland
	Euro/MWh	%
Finland	57	100
Ukraine	46	170
Estonia	53	156
Latvia	61	180
<b>Romania</b>	<b>63</b>	<b>235</b>
Czech Republic	68	200
Lithuania	69	230
Great Britain	73	160
Sweden	74	140
Slovakia	81	235
Poland	84	175
Netherlands	112	226
Denmark	113	175

Source: *Analysis FORTUM, Study KPMG 2011-2012, Euroheat and Power, Year Book 2011* cited in SPOS 2013, Study no 1, European Institute from Romania (IER), Bucharest 2014, p. 109

The concept of "fuel poverty" (poverty to fuel demand), "energy poverty" (energy poverty) in Anglo-Saxon space, respectively, "précarité énergétique" in French space must be seen also in correlation with the status of public service. Thus, going from public service obligations it follows that all final customers should be able to be supplied with energy by various forms. But this

requires two conditions: physical possibility (link to a power supply with electricity, gas, heat or discriminatory access to a market of coal, firewood, oil, etc.) and financial possibility to cover the cost of this service. Also, the poverty status of a person / family / group / community manifested by lack of resources strictly necessary for buying goods and services considered to ensure a minimum level of living in a certain period of time, based on the socio-economic conditions of society.

### **Conclusions**

My study investigates the liberalization process of the Romanian electricity and gas markets in the European context and the possible effects on the final consumer of energy (whether it is domestic or non-domestic consumers). The main challenge that Romanian authorities will need to handle it is the potential increase of the number of vulnerable consumers. Also, liberalization process will raise the issue of population affordability, another category, alongside industrial consumers, which will be directly affected.

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