

## THE MACROECONOMIC IMPACT OF LEGISLATIVE REGULATIONS IN THE RENEWABLE ENERGY SECTOR

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**Abstract:** This paper will analyze the impact of legislative regulations in the energy produced from renewable sources of energy prices on households and industrial energy market in the European and Romanian. Will be presented first European strategy on the promotion of renewable energy to achieve the target of 20% of EU energy production. Directive on renewable energy production has generated a number of changes in the energy market on the price to the consumer and the State aid administered by the European Commission. This Directive has led to increases in energy prices finalized encouraged by various support schemes. Macroeconomic analysis will estimate the effects of increasing electricity prices due to legislative regulations of renewable energy on domestic and industrial consumers in the EU member countries. For this research the author appeals to applied economic literature on market price of renewable energy, namely the introduction of an additional cost for households and industrial consumers, cost generated by high levels of investment in renewable energy and encourage energy produced by different support schemes. The author will highlight the main issues induced by some EU countries have taken a number of measures to reduce or eliminate the additional cost and then nationally, based on the National Action Plan for Renewable Energy, will assess the effects the regulations in the field of energy they produce to market. On the one hand European Commission approves state aid for renewable energy production, on the other hand, the Commission brought all state aid for the high price of energy in energy-intensive industry. It will finally achieve some estimates on energy prices in 2020 in Romania. Maintaining the high cost of energy for industrial consumers leads to uncompetitive due to the high prices of the final product. Regarding the question of consumer households vulnerable due to higher electricity prices.

**Keywords:** price, consumers of energy, renewable energy directive, the difference in price

**JEL classification:** E31

### 1. Introduction

The European Union has set out plans for the energy strategy based on a safe, sustainable and low carbon. In addition to tackling climate change by reducing emissions of greenhouse gases, use of renewable energy is likely to lead to a more secure energy supply, greater diversity in energy supply, reduce air pollution and the possibility creation of jobs in environmental and renewable energy sectors.

### 2. Theoretical considerations

A new interesting research about the impact of electricity generation from renewable energy sources (RES-E) on energy prices, and potential interactions with market liberalization. Most renewable energy technologies are not profitable at current prices, and their development is mainly driven by different public support schemes, which tend to be funded by the retail electricity market. This implies an additional cost for the consumer and an increase in retail electricity prices.

Literature is divided in the direction of the net effect on the price performance of RES\_E electricity wholesale and retail. Moreno Lopez and Garcia-Alvarez (2012) confirms that the cost increases energy price support schemes to the final consumer. However, honey Saenz et al. (2008), Sensfuss et al. (2008) and Jensen and Skytte (2003) justify their conclusions that the conduct RES\_E contribute to an overall reduction in retail electricity prices. These contradictory results suggest that further work should be done on quantifying the various components of the overall price, the net impact of the type of consumer and the type of renewable energy promoted, and the identification of any interactive effects with other factors such as the degree of competition in the market.

### **3. Legislative regulations in the European Union**

Directive 2009/28 / EC of the European Parliament and of the Council on the promotion of renewable energy has set an overall EU target for a 20% share of energy consumption to come from renewable sources by 2020, while renewables should represent a share of 10% of fuel used in transport by the same date. The Directive amends the legal framework for the promotion of electricity from renewable sources and required national action plans to show how renewable energies will be developed in each Member State.

European Commission EC Directive no. 2009/28 / EC on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77 / EC and 2003/30 / EC, considered necessary to promote electricity production from renewable energy sources by implementing schemes support that are actually funded by final consumers of electricity.

On 6 June 2012, the European Commission presented a Communication entitled "Renewable Energy: a major player in the European energy market" (COM (2012) 271 final), highlighting policy options for renewable energy beyond 2020 . The Communication also called for a more coordinated approach in establishing and reforming European support and increased use of renewable energy trade between Member States. In January 2014, the European Commission presented a set of energy and climate goals for 2030, in order to encourage private investment in infrastructure technologies and low carbon. These objectives are seen as a step towards achieving their emission of greenhouse gases for 2050. One of the main objectives is proposed for the share of renewable energy to reach at least 27% by 2030.

European Commission EC Directive no. 2009/28 / EC on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC, considered necessary to promote electricity production from renewable energy sources by implementing schemes support that are actually funded by final consumers of electricity.

#### **3.1. State aid for renewable energy**

In 2008 the European Commission adopted guidelines on State aid granted earlier by the Member States and regional and local authorities. These guidelines stable compatibility criteria which ensure a high level of environmental protection. Much of the aid granted under the 2008 Guidelines served to promote renewable energy sources (RES). From a total of € 10 billion provided under the environmental protection measures between 2008 and 2012, Member States granted € 8 billion for RES and cogeneration. Some of these measures do not require notification to the Commission, so have benefited from an exemption under the 2008 General Block Exemption Regulation.

Review guidelines started in 2012 included three public consultation and numerous contacts with Member States and stakeholders. For the first time, the Commission decided to adopt guidelines covering not only the RES and energy efficiency, but would be more oriented generally aid measures energy. New guidelines on State aid for environmental

protection and energy were adopted in principle in April 2014 and were applicable from 1 July 2014 (OJ C200).

State aid rules for the production of energy from renewable sources helped to achieve the environmental objectives of the EU. Under current EU targets by 2020, 20% of total energy consumption should come from renewable sources. In 2012, the EU average already spent 14.1% of its energy from renewable sources. Based on current trends and policies, the EU average of renewables in energy consumption could reach 20.9% by 2020 (Figure 1).



**Figure 1:** EU average of Renewable Energy in gross final energy consumption, 2000-2020  
Source: European Commission

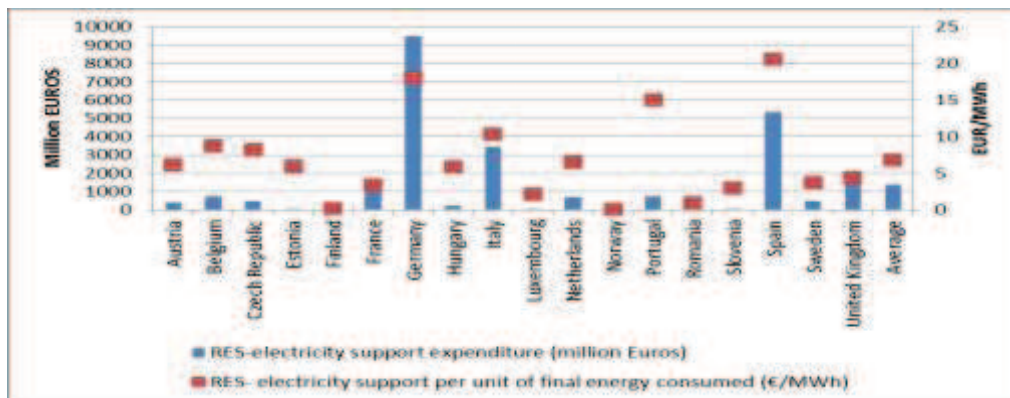
But there are also new challenges. Renewables have become victims of their own success. The rapid growth of renewable energy generators have also caused market distortions:

- Support schemes are not cost-effective: To support renewable energy sources, Member States use fixed rates guaranteed. They cover producers of electricity from renewable sources to market signals and changing electricity prices, which do not give any economic incentive to accommodate the characteristics of the project (such as location, design, installation, operation or real) of supply and demand;
- Market fragmentation: There are large differences between support tools, levels of support from Member States and technologies. Figure 2 below shows that many Member States are spending on support schemes for electricity from renewable energy sources (RES-E), both in absolute terms and per MWh.

Different levels of support are not necessarily a problem, but large differences could encourage potential grant shopping. One explanation for the large differences between Member States could be simply that it is difficult to establish administrative charges at the right level. Member States tend to subsidize national production of energy only, which enhances energy market fragmentation.

In June 2014, the Council stressed the need to move progressively towards effective mechanisms and market-based support for renewables. To reduce energy costs borne by end users, the European Council called for greater convergence of national support schemes by 2020.

- Incentives less invested in production capacity: renewable energy sources generally have lower operating costs than conventional electricity production needs fuel to function.



**Figure 2:** RES-e support in Europe per unit of energy consumed  
Source: CEER, June 2013

Considerable expansion of renewable energy sources pressed wholesale electricity prices. This had a negative impact on investment in conventional generating capacity, especially gas-fired plants. Existing plants are aging, and when substantial investment is needed to ensure sufficient generation, they cause concern outlooks.

To meet these challenges, it is necessary that support schemes to be reformed and become more responsive to price signals. The revised Guidelines mitigates potential distortions of competition caused by support for renewable energy. At the same time, they help Member States to continue to meet renewable energy targets. Moving away from renewable energy subsidies and their integration into the market will likely reduce market distortions to improve the functioning of the internal market and to help electricity costs in Europe.

As a first step, the guidelines will eliminate guaranteed purchase of energy from renewable sources at fixed prices: from 2016 renewable energy producers will have to sell their production to the market. They can still get help, but as a premium in addition to the market price. In the second stage, the new guidelines promotes the gradual introduction of competitive bidding as a means of granting aid for renewable energy. Competitive bids will become mandatory in 2017, but will be preceded by a two-year pilot phase, which will allow Member States to adapt the system to national circumstances.

To reduce fragmentation of the internal market, competitive bidding processes should in principle be open to bidders from other Member States. This does not apply to foreign companies can not physically access the market, or when there is cooperation mechanisms in place. These are agreements that allow Member States to take electricity from renewable sources produced in another Member State to achieve the target account their energy from renewable sources in 2020.

Competitive bids are permitted only way to grant operating aid for the production of electricity from renewable energy sources. In such cases, notification threshold is set at € 150 million per year, taking into account the combined budget for all systems.

To finance renewable energy, governments increase taxes on energy suppliers who, in turn, increase energy costs for consumers, both domestic and industrial. These charges from renewable energy sources are an increasing burden on energy-intensive sectors. This makes it difficult to compete with non-EU industry. The main concern in terms of state aid control is that companies that benefit from these discounts are subject to obtaining an undue advantage which improves the competitive position compared with other companies and distort trade between Member States. Schemes could also introduce distortions in the Member States where the companies in specific sectors are treated differently (for

example, large firms receive support, while smaller firms not).

To take into account differences between firms, energy-intensive companies in certain sectors consuming more may be eligible for tax cuts RES. Because each company is expected to contribute a percentage environmental objectives, the maximum possible reduction of tariffs is 80%.

In July 2011, the Commission approved the Romanian support scheme based on green certificates designed to promote electricity from renewable energy sources. Producers of electricity from renewable sources receive a certain number of green certificates, depending on the technology used for each MWh produced and delivered over the network. Electricity suppliers must purchase a mandatory quota of green certificates and transfer the entire cost of green certificates to end consumers.

In July 2013, the European Commission approved the scheme proposed by Germany for state aid energy intensive industries (CO<sub>2</sub> compensation for indirect costs reflected in electricity prices). The main reason was the risk of relocation of economic production activity to other regions / countries due to strict environmental regulations and high costs of CO<sub>2</sub> (carbon leakage). The total approved aid scheme is € 756 million for 2013-2015, which could be extended until 2020. Companies eligible for aid must be active in one of the following sectors: aluminum production, exploitation of minerals and fertilizers , production of iron, steel and ferrous alloys, production of fertilizers, iron ore mining, paper and paperboard.

In July 2014, Romania has notified its plans to reduce its contribution to the financing of renewable energy for some companies that operate in sectors with a high level of intensity and exposure electro-trade. Beneficiaries' contribution to support for renewable energy will be reduced by 85%, 60% or 40% if they show an electro-intensity above 20%, between 10% and 20%, respectively, between 5 % and 10%. Beneficiaries will have to show that (1) does not record debts to general government budgets; (2) performing energy audits and implement measures to improve their energy efficiency; (3) not more than 25% of redundant employees and maintain activity in the European Economic Area (4) partnerships with educational institutions to bridge the gap between theory and practice, increasing the professional level and attract qualified personnel.

The Commission has assessed the compatibility of the measure with the provisions of the new guidelines on aid for environmental protection and energy, adopted in April 2014. Following the investigation it was found that reductions is limited to companies operating in sectors recognized under the same guidelines as for electro-intensive and exposed to international trade. Other conditions applied to selecting eligible beneficiaries are objective, transparent and do not discriminate between companies that are in a similar factual situation. Reduction Scheme Green Certificates entered into force on 1 December 2014 and will expire on 31 December 2024. The annual budget dedicated to the scheme is estimated at around EUR 75 million for 300 beneficiaries.

### **3.2. Electricity price level in EU countries**

In the European Union the price of electricity consumption initially fell after the liberalization of the energy market liberalization in 1998 was associated with a deviation from the principle of pricing based on average costs. The evolution of consumer electricity prices (calculated excluding taxes and duties imposed by the government) took over variable costs reflect.

Consumer electricity prices, taxes, doubled in Germany in 2000 as a result of: (1) tax reallocation in favor of renewable energy, which increased to 52.88 euro/MWh by 2013; (2) electricity tax, which was introduced in 1999 and then gradually rose to 20.50 euro/MWh, and (3) fees reallocation launched network access charges. Energy industry was only a little affected by these taxes and charges imposed by the State of relocation, so it was

possible to keep the prices of electricity for industries with relatively high power consumption.

In Spain, due to the shortage of electricity, electricity prices for households are among the highest in the European Union. The situation is slightly better for industrial customers in approximately 115 euros per MWh. Spain has its place among the eight EU Member States (United Kingdom and Italy have higher prices). However, the Spanish electricity prices are still well above average.

Germany kept the competitiveness of large industrial consumers by giving them some exceptions. The main difference with Romania is that it has special rates injection network. On the other hand, the tariff for renewable energy is reduced annually to introduce an incentive to lower the cost of innovation. Rates apply throughout the period of payment, on the 20 years. For onshore wind energy, rates are from 48.7 €/MWh to 89.3 €/MWh, that dropped by 1.5% annually for 20 years. In comparison, our country offers two green certificates, which are traded at a maximum price of 55 euros, plus another 40 euros that they get from selling energy producer on OPCOM (Energy Market Operator and Natural Gas in Romania ).

Since 2010, the Spanish government has made a series of ambitious reforms about to put end deficit, including reducing subsidies for renewable energy production tax activity, creating some fees for different generation technologies, reducing payments for distribution and transmission, etc. Last reform, announced in July 2013, included a royal decree law to enforce emergency measures electricity.

In Spain, green energy producers must choose between a system of difference in price and guaranteed bonus scheme, plus the market price of energy. For wind energy is granted EUR 73.2 fixed price, guaranteed for 20 years. For PV, the largest price is 340 €/MWh for systems installed in buildings, but having installed capacity below 20 kW. For over 10 MW power not granted incentives. However, because of the crisis in January 2012 support schemes for new renewable installations were suspended by royal decree. Increasing the Spanish state deficit, coupled with accelerated development of green energy in recent years has necessitated the suspension schemes. Not affected plants entered into service by 2012.

The Bulgarian government also cut the flesh. Executive in Sofia guaranteed low prices with 20% wind energy and solar energy by 50% in early 2013. It also introduced a retroactive fee for using the National Energy System applicable to green energy producers whose capacities came into use from 2010 onwards.

And Greece has reduced feed-in tariffs guaranteed due to budget cuts. For the year 2014, the tariffs for photovoltaic capacity is between 53% and 68% of tariffs in the first half of 2012.

In fact, of the 28 EU member states, ten countries have already introduced restrictions on support schemes and other schemes implemented ten differentiation of obligations not to press too much on the industry.

Some Member States have in recent years, so-called accumulated deficits electricity tariffs. Regulated electricity prices do not cover costs incurred by energy utilities. In some countries, such as Spain, Portugal and Greece, authorities and regulatory bodies explicitly use the term shortages of electricity price and size monitors them.

In France, regulated electricity tariffs do not cover the real costs of electricity in the state-controlled company, which has the largest market share in the French electricity.

In Bulgaria, regulated energy prices are also too small to fit the related expense.

In Malta, the regulated price rigidity led to an accumulation of debt in the company of electricity.

The scope of the tariff deficit varies from country to country. The deficit is caused by a mismatch between the total amount of electricity to end users and related costs (this is the

case in Portugal or France), between the costs of access - including transport, distribution and support for renewable energies - and the corresponding tariff (in Spain) or between costs and revenues of the Special Account for the support of renewable energy sources (in Greece). It is important to distinguish between significant long-term tariff deficits that are difficult to remove, and short term.

The main factor that causes the tariff deficits in recent years has been a substantial increase in energy prices. Several factors contributed to this price increase, especially the rising cost of fossil fuels and global deployment of renewable technologies. In some countries, generous subsidies to producers of solar and wind power triggered massive investment in these sectors, which in turn inflated the amount of subsidy required to pay investors. This support is mainly financed by a surcharge on the price of electricity. Other factors contributing to the increase in electricity prices include limited competition and transparency in the energy sector in some Member States, subsidies for conventional energy producers and power purchase agreements remaining term.

In most Member States, the rising cost of electricity have been fully reflected in end-user prices, sometimes unequal segments, ie households and industrial.

In Spain and Portugal, utility rights to recover the tariff deficit accumulated turned in fixed income securities; in Spain these securities are guaranteed by the government explicitly. Tariff accumulated debt - including the securitized - amounts to 2-3% of GDP in Spain and Portugal.

To reduce these deficits, the simplest solution, in theory, should increase tariffs to cost recovery levels. However, this is not always possible. If deficits are large, their removal would require substantial electricity prices. They could adversely affect industrial competitiveness and households' purchasing power, and would not be acceptable for energy consumers.

Therefore, Member States tariff deficits usually combined with other measures limited tariff increase: remedies of energy consumers, energy and public finances. These include, first, reducing support to renewable producers (including co-generation), the other generators (such as capacity payments or subsidies to coal) and low pay transportation and distribution. For example, Spain has recently replaced the difference in price for renewable energy through a compensation mechanism which guarantees a specific RES generating annual rate of return on investment, introduced similar rules for energy transmission and distribution and substantially reduced capacity payments gas installations.

Despite these measures, electricity tariff deficits persist in many countries. They distort electricity prices, deteriorating financial condition of utilities energy and increases uncertainty for investors in this sector and for all electricity consumers. For these reasons, several Member States have committed to the elimination of the tariff deficit. In Greece, Portugal and Spain, phasing out the electricity tariff deficit was included in the memoranda of understanding of financial assistance programs.

#### **4. The macroeconomic impact of regulations RES in Romania**

Transposition of European Directive into national law was made by Law no. 220/2008 for the system to promote energy production from renewable energy sources, republished, as amended and supplemented (the Act), which established a system of promotion of electricity produced from renewable energy sources, green certificates. This system was approved by the European Commission Decision C (2011) 4938 on State aid SA 33134 (2011 / N) for Romania - green certificates to promote electricity production from renewable energy sources. Implementation of the system for promoting electricity from renewable sources, green certificates, established by Law took place on 1 November 2011. The system involves, on the one hand, quota setting annual mandatory green certificates and on the Moreover, market trading mechanisms CV issued to producers of

electricity from renewable energy sources. Market mechanisms consist of selling CV, between a minimum and a maximum or CV centralized market or through bilateral contracts for purchase / sale of CV, performed on a centralized trading platform. Given that the annual quota is not reached mandatory electricity supported by the promotion system established to achieve the national target assumed by Romania, shows a deficit of CV market price determined by market mechanisms tend to increase to the maximum. In 2012 Romania was offering grants of more than two times higher for electricity in the wind compared to the European average and more than six times higher in the photovoltaic. According to the latest data, Romania has already achieved 97.5% share of green energy assumed for 2020.

Romania has delayed payment of a number of green certificates for the period 1 July 2013 to 31 December 2016. By 2013 they were granted six green certificates for each MWh of energy produced in photovoltaic (2.5 times higher than the EU average), two certificates for wind energy (2.24 times higher than the EU average) and three certificates for energy SHP with an installed capacity to 10 MW. The draft emergency ordinance provides certificates difference would be delivered after 1 January 2017.

The level set out in the National Action Plan on Renewable Energy (NREAP) to the end of 2013 is 3315 MW. Total installed power plants in Romania in the production of electricity from renewable energy sources (including hydropower plants with installed capacity greater than 10 MW) thus reached approx. 6000 MW.

**Table 1:** Estimated power renewable energy in Romania

	<b>UM</b>	<b>2011-2015</b>	<b>2016-2020</b>	<b>Total 2011-2020</b>
Wind power	MW	2734	800	3534
Total investment	Mil. euro	4641	1359	6000
Photovoltaic	MW	148	112	260
Total investment	Mil.euro	370	280	650
Power on biomass	MW	402	175	577
Total investment	Mil.euro	975	425	1400

Source: National Renewable Energy Action

Evolution invoice final consumer impact renewable energy contribution for the year 2013 was accelerated growth of about 30 Euro/MWh approx. 53 Euro/MWh in early. As a result of measures taken by Ordinance no.57/2013, the contribution rate in 2013 dropped to 35 Euro/MWh.

In accordance with EC Directive no. 2009/28 / EC on the promotion of energy from renewable energy sources, Romania sent the EC in 2010, the National Action Plan for Renewable Energy for the period 2011 - 2020. NREAP sets national targets for the share of renewable renewable trajectory for reaching them, taking into account the effects of the measures of national development policies and strategies coupled with the limitations of the transmission and distribution network and available reserves to balance the National Power System (RPS) to ensure its safe operation . Evolution accredited capacity by the end of 2013 and their perspective presented by ANRE compared NREAP 2010, for the period 2011 to 2020, indicating a rapid development of the electricity generation sector of renewable energy, which if exceeded expectations intermittent technologies, wind and photovoltaic (about 3750 MW at the end of 2013 to about 2530 MW provided in NREAP). ANRE estimated approx. 6000 MW at the end of 2014, compared to 3,000 MW provided in the NREAP. The spectacular increase installed capacity took place during 2012 - 2013,



especially in 2013 and coincided with a decrease in electricity consumption in the same period.

Given the structure coverage renewable sources considered in the National Plan of Action on renewables, (considering the extra cost of green certificates) lead producer prices to about 72 € / MWh in 2020. The situation is still very fluid whereas the number certificates for each MWh "green" depends on the type of production technology and "overcompensation" can still be invoked in some cases.

However, the study considers that the producer price figure of 72 €/MWh is minimal. Recent data ANRE submit digits of energy price increases due to the use of renewable sources by 30% by 2017 and by 23-24% by 2020. The explanation is that after 2017 fewer green certificates are granted to avoid overcompensation. A recent study from ANRE, gives more details about the gradual increase of the price.

The values are presented in Table 1:

**Table 2:** Gradual increase in energy prices

<b>Year</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
Increase price (€ / MWh)	19,59	23,92	12,95	13,98	30,43	21,46	21,13	20,80

Source: Estimates based on the National Commission of Prognosis

According to the International Energy Agency (IEA) high electricity prices will affect the European economy for another 20 years from now, undermining the competitiveness of EU key industries and jobs of a number of almost 30 million Europeans. IEA estimates that in the next two decades, Europe will lose a third of global market share currently held in the export of products that require energy-intensive, because maintaining energy prices at levels significantly higher than those of United States.

Several EU countries are currently providing grants for energy production from renewable sources, progressively renounce nuclear energy production facilities to the dismay companies intensive industries consuming electricity, which complain that, in this way, it is destroyed competitiveness.

In Romania short-term impact of uncontrolled increase in electricity prices by about 30 lei MWh due contribution to promoting renewable energy raises a question of affordability both from households and from industrial consumers.

Projection in the coming years must take into account the effects of price liberalization by about 30% and the effects of price increases in the context of creating regional market (between 10-30%), the fee for cogeneration and changing consumer habits household energy for electricity in the context of the sharp drop in electricity consumption.

The proposed measures are aimed at activation of the market with regard to the scheme to promote renewable energy in Romania is a mandatory quota system based on the purchase of green certificates traded on a separate market competitive.

The main consequence of reducing the mandatory quota fixed for 2014 is the obligation of electricity suppliers to purchase green certificates issued for partial delivery network electricity from renewable sources. By reducing the number of green certificates allocated their market is expected to issue the correct signals on the minimum level of public intervention support and boost the competitiveness of electricity. It also seeks to improve the competitive conditions on the electricity market.

## **5. Conclusions**

The liberalization of energy markets and the creation of the European internal market are long-term interests of the European Union, provided gradually implementing legislative

package, predictable and transparent, in line with current realities of the energy system. The introduction of the Directive on renewable energy in the European energy market brings a number of regulations and interventions of the European Commission under State aid producers and investors in renewable energy sources. The scale of investment in renewable energy is clean energy that falls upon costs can not be borne by consumers.

As a result, the European Commission has limited State aid in the field, and some countries have reduced rates of intervention.

In Romania the legislative, fiscal and regulatory framework should be stable, predictable, long-lasting and favorable investment. Any changes need to be discussed by public consultation with leading players in the sector, where appropriate, based on impact studies. Correct formation of prices for final consumers, based on free market mechanisms and proper functioning of the internal energy market is imperative. Currently Law no. 123/2012 creates a vicious circle of unsustainable investment: investment in production capacity can be achieved by pre-contracts for the sale of electricity, because the future is not licensed manufacturer and anyway will have to provide centralized electricity markets where not sure that in time will receive based price.

The state's role in the energy system should be limited in most cases to the arbitrator. Budget revenues derived from taxes on the energy sector should be used for upgrading (especially transmission infrastructure) and for interconnection with neighboring states and not to finance the state budget in general. Of course, part of the aid is strictly necessary for households that become vulnerable with price liberalization.

The liberalization of energy markets in the period 2013-2017 will increase prices for final consumers, whether industrial or domestic, gradually aligning the prices of other Member States, perhaps in a faster pace than that of productivity and income growth.

The increase in electricity prices over the affordability seriously affect energy intensive industry. Decreased competitiveness of industrial products, loss of market share and increased risk of relocation of industries such as metallurgy, aluminum, petrochemicals, cement, construction materials, fertilizers, with major impact in horizontal industries, will reflect on national economic growth and will detract from the attractiveness for foreign investment in the industrial sector.

Regarding households, a simple analysis results in a significant increase in the state budget effort to assist vulnerable consumers by getting the energy poverty situation of new categories of consumers.

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