

# THE IMPACT OF THE CORONAVIRUS PANDEMIC ON THE ENERGY SECTOR

Oana, Chindriș-Vășioiu<sup>1</sup>  
Mădălina, Tocan<sup>2</sup>

## **Abstract**

*In the context in which energy has become a vital component, a cost factor for economic development, the paper represents an analysis regarding the importance and approach of the energy sector in the European Union (EU), the energy strategy for Romania and an analysis of the energy crisis caused by the Coronavirus Pandemic. The article briefly presents the European Union's energy policy, which is a key element in achieving national energy strategies, each country, including Romania, acting in the energy sector so as to meet the EU's global and sustainable energy policy goals. The current Coronavirus crisis is having wider effects than those related to public health, with profound and long-term socio-economic consequences. Pre-existing factors leading to energy poverty have amplified all this time, by decreasing or losing revenue and increasing bills due to increased energy consumption..*

**Keywords:** *energy efficiency, energy markets, energy strategy, European Union*

**JEL classification:** *Q43, Q48.*

## **Introduction**

The interdependent world we live in is becoming more and more complex. Uncontrolled growth in consumption causes a drastic reduction of resources on a global scale, represents a challenge for our society and affects the sense of security that plays a key role in quality of life, with serious consequences for the environment.

The energy sector has begun to face growing problems caused by population growth and, implicitly, by increasing consumption. The consumption increasing has led to an increase of the resources used in production, which increases the risk of depletion of natural resources. Thus, European states have faced a decrease in the amount of resources.

European energy policy comes to explain the challenges facing Europe in the 21st century, namely: lack of resources, dependence on gas imports and the risks to which European countries are exposed. These risks include increasing global energy demand and consumption, the lack of diversity of renewable energy sources, but also the absence of a single energy market to maintain the stability of this sector. Energy policy addresses issues such as the internal energy market, energy security and the climate change component.

Recent developments of the European policy in the field of energy and environmental security have led to a new strategy for achieving the Energy Union for the European Union states, with priority given to those facing problems in supporting energy needs. (Naumescu and Moldovan, 2019, p.198)

## **1. European Union energy policy**

The EU's energy challenges include aspects such as: increasing import dependence, high and volatile energy prices, rising of global energy demand, security risks which affect the producer and transit countries, growing threats of the climate change, decarbonisation, slow progress towards energy efficiency, the challenges arising from the growing share of renewable energy, and also the need for a greater transparency and better integration and interconnection in energy markets. The EU's energy policy has at its center a set of various

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<sup>1</sup> Ph.D., Institute of National Economy, Romanian Academy, e-mail: oana.vasioiu@gmail.com

<sup>2</sup> Ph.D., Institute of National Economy, Romanian Academy; Ecological University of Bucharest, e-mail: madalina.tocan@gmail.com

measures aimed at achieving an integrated energy market and ensuring security of energy supply and the sustainability of the energy sector.

Energy security continues to occupy an important place on the European agenda. The situation of the European energy security policy of the Member States is a topical issue. The main problem of the Energy Union is related to the distribution infrastructure of the interconnecting corridors, which unfortunately still revolve around political stakes of states that have economic interests, but also around the differences in status between states. This problem is not new in Europe and it can also be observed in the differentiated purchase price of energy resources from key energy policy actors.

The energy has always been a component of the European integration process. Thus, the Treaty on the European Coal and Steel Community (1951) and the Euratom Treaty on the Establishment of a European Atomic Energy Community (1957) focused on two of the most important energy sources, namely coal and nuclear energy.

With a view to creating a European energy market, regulatory activity in the field of energy at Community level has intensified and led, after 50 years, to a legal basis for EU energy policy under the Lisbon Treaty (2007), but also to the sharing of competences in this field between the European Union and the EU Member States. Article 194 of the Treaty on the Functioning of the EU sets out the objectives of the European Union's energy policy, namely:

- ensuring the energy market functioning;
- ensuring the security of energy supply in the Union;
- promoting the energy efficiency and energy saving, as well as developing new energy sources and renewable energies.

In 2015, the Commission launched the Communication on the Energy Union which sets out the vision for the future of the European energy system and the necessary steps to achieve it. The Energy Union is based on the three objectives of EU energy policy (competitiveness, sustainability and energy supply security) and focuses on five dimensions:

- energy security, solidarity and trust;
- the internal energy market;
- energetic efficiency;
- economy decarbonization;
- research, innovation and competitiveness.

The creation of a fully functioning Energy Union contributes to boosting the EU economy, its energy security and its commitment to combating climate change, while offering a wider range of options and lower prices for EU consumers and businesses.

To achieve the objectives of the European Green Deal, the European Commission have launched in 2020 five EU strategies for integrating energy systems, hydrogen, reducing methane emissions, harnessing the potential of offshore renewable energy, and renovating buildings in Europe. Also, in addition to the European Commission's efforts, European energy ministers decided to adopt three sets of Conclusions in the fields of the European hydrogen market, European cooperation related to offshore renewable energy and the impact of the COVID-19 pandemic on the energy sector in Europe. (Ministry of Foreign Affairs, 2021)

The support provided by the European Green Deal is a key factor for the transition to low-carbon energy industries across the European Union. The researchers are increasingly concerned about the impact of economic activities on the environment. For this reason the climate change has become a priority on the decision-makers' agenda. The sanitary crisis caused by the Coronavirus Pandemic has heightened the concerns about climate change and drew the attention to increasing sustainability and environmental protection around the world.

The need for decarbonisation has generated changes in the governments and companies global strategies in terms of energy efficiency and renewable energy sources.

However, denial of climate change, populist movements and the low adoption of renewable energy sources in some countries have undermined the efforts made so far to decarbonise and combat climate change.

Neutrality in the greenhouse gas emissions has been defined as a 2050 target for the European Union, a goal set out in the European Green Deal. This is a legal commitment, a set of initiatives aimed at facilitating Europe's transition to a clean and circular economy through the efficient use of resources, the restoration of biodiversity and the reduction of pollution in all its forms. The implementation of the agreement addresses various levels, such as agricultural innovation, investments in hydrogen for energy purposes, renovation of buildings stock, offshore energy, minimization of current pollution and various forms of sustainable investment.

By 2030, the target for reducing greenhouse gases is 50% - 60% compared to 1990 levels. One of the main modalities through which the European Commission aims to achieve climate neutrality is the decarbonizing the energy sector. Emissions carbon trading or carbon offsetting and reduction projects are short-term solutions to a pressing problem. 75% of the EU's greenhouse gas emissions come from energy production and use in economic sectors. (European Commission, 2021)

The year 2021 began with a European diplomatic approach to setting out, in the form of Council of Europe Conclusions, the EU's goals of accelerating the global energy transition, the relevance of strengthening energy security and the EU and its partners resilience, and also of the importance of deepening cooperation in relevant international fora in the field of energy diplomacy and climate change. (Council of the European Union, 2021)

## **2. Romania's Energy Strategy**

Energy security represents, along with competitiveness and sustainable development, one of the Romania's energy strategy pillars. Our country has the necessary resources to grow the energy system, and this must be prepared to support the development of industry and agriculture, of the economy as a whole, as well as improving the quality of life in both urban and rural areas. These resources must be harnessed in order to shift from an expectation paradigm to a proactive and courageous development paradigm, respecting, of course, the principle of sustainability.

The development of the energy sector is part of Romania's development process. Romania's energy development means: the use of non-polluting innovative technologies in all subsectors of the energy system and the maintenance of Romania as an energy supplier state, a factor of energy stability in the southern European area; building new production capacities based on clean top technologies; the transition from solid fuels (coal, lignite, etc.) to natural gas and renewable energy sources; refurbishment and modernization of existing production capacities and their compliance with environmental norms, strengthening of energy transmission and distribution networks; encouraging decentralized energy production; encouraging the growth of energy-efficient domestic consumption; export. Thus, the national energy system will be stronger, safer and more stable.

The Energy Strategy has eight fundamental strategic objectives that structure the entire analysis and planning approach for the period 2020-2030 and the time horizon of 2050. Achieving the objectives requires a balanced approach of the national energy sector development, both from the perspective of national and European regulations and from the investment expenditures. The objectives of the strategy support the achievement of the national targets assumed at the level of 2030:

- 43.9% reduction of emissions related to ETS sectors compared to the level of 2005, respectively by 2% of emissions related to non-ETS sectors compared to the level of 2005;

- 30.7% share of energy from renewable sources in gross final energy consumption;
- 40.4% reduction in final energy consumption compared to the PRIMES 2007 projection.

The objectives of the Energy Strategy are:

1. Ensuring access to electricity and heat for all consumers;
2. Clean energy and energy efficiency;
3. Corporate governance system and institutional regulatory capacity modernization;
4. Protecting the vulnerable consumer and reducing energy poverty;
5. Competitive energy markets, the basis of a competitive economy;
6. Increasing the quality of education in the field of energy and continuous training of qualified human resources;
7. Romania, regional energy security provider;
8. Increasing Romania's energy contribution on regional and European markets by capitalizing on national primary energy resources.

According to the vision and the eight fundamental objectives of the Strategy, the development of the energy sector is directly proportional with the realization of investment projects in the Romanian energy system. The production of electricity based on low carbon technologies, in which the transition from solid fossil fuels to natural gas, as a transition fuel, renewable energy sources and nuclear source represents priority projects, respectively digitization of networks projects, storage, the use of hydrogen and the energy efficiency measures will contribute to the achievement of the fundamental strategic objectives of national interest mentioned above.

The achieving of the strategic objectives requires a rigorous anchoring in the reality of the energy sector, with a good understanding of the international context and technological, economic and geopolitical trends.

In the Energy Strategy, an important place is destined to the analysis of the European context and the policies for the creation of the Energy Union. The strategy orients Romania's positioning in relation to the reform proposals of the European energy market and presents, through the operational objectives and priority actions, the intervention strategic options of the Romanian state in the energy sector.

At the same time, from the perspective of regional energy policies, the Strategy reiterates the importance of interconnections under construction in Central and South-Eastern Europe. They contribute to the development of energy markets and regional energy security mechanisms that will operate according to common EU rules. The vision and fundamental objectives defining took into account the country's energy resources, as well as the fact that Romania has and will continue to rely on a balanced and diversified energy mix, which provides credibility for ensuring the country's long-term energy security.

The Energy Strategy establishes that Romania will maintain its position as an energy producer in the region and will have an active and important role in managing stressful situations at regional level. The Strategy also analyzes the perspective of the national energy system for 2050. The projections for 2050, even if they have a higher degree of uncertainty, are relevant in terms of the vision and fundamental objectives of the development of the energy system assumed by the Strategy. These will be able to be outlined more clearly in the context of the Long-Term Strategy elaboration, a programmatic document which is under development, in accordance with the Regulation on the Governance of the Energy Union and Climate Action.

An important aspect of the development of the Romanian energy sector will be the ensuring of a fair energy transition by managing the transition social and economic effects, especially in mono-industrial and carbon-dependent regions. In this sense, the support of the European Union within the Mechanism for a Fair Transition and the dedicated structural

funds related to the new multiannual financial framework 2021 - 2027 will be particularly important for Romania.

In the context of the Clean Energy for All Europeans package and the European Green Deal, which impose the transformation of the energy sector through decarbonisation, based on clean, innovative technologies which cope to the competition on an integrated electricity market, it is necessary to adapt the Romanian energy sector to new development trends.

This involves a significant investment volume throughout the whole technological chain, from electricity generation, to smart gas and electricity transmission and distribution networks as well as to the reform of the electricity and gas market to face a new market model, based on efficient, clean, flexible energy capacities and innovative technologies in a regional and European competitive environment. (Ministry of Economy, Energy and Business Environment, 2020)

### 3. The energy crisis caused by the Coronavirus Pandemic

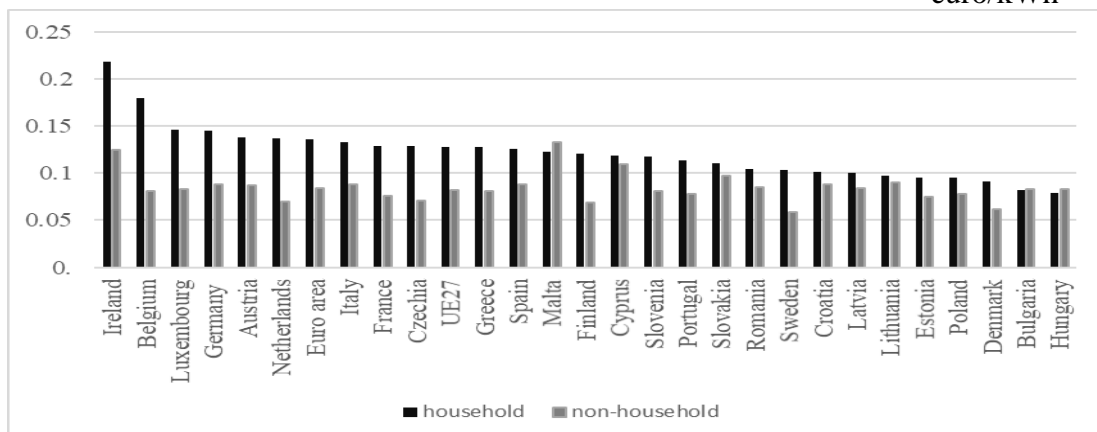
The Coronavirus pandemic is a major and serious public health crisis which affects the citizens, societies and economies around the world. The scale of the health crisis, but also the response measures taken at the policy level to control it are unprecedented. Therefore, the socio-economic impact of the crisis is far-reaching. From now on, it is clear that this presents unprecedented and strong challenges for the financial and economic systems of the EU Member States.

The shock felt by the EU economy is symmetrical insofar as the pandemic has hit all Member States; instead, the impact of the pandemic differs considerably from one Member State to another, and also their ability to absorb and respond to economic and fiscal-budgetary shocks, depending on the specific economic structures and initial conditions of the Member States. Therefore, there is a risk that this crisis will deepen disparities within the Union, threatening collective economic and social resilience. (European Commission, 2020)

The Coronavirus pandemic has affected both the world health system and the economic system. Implicitly, the effects were also felt on the energy sector. In the following paragraphs we will try to make an analysis of the impact that the Pandemic had on the energy sector of the EU member states.

**Fig. no. 1 – Electricity prices in EU countries, second semester 2020**

- euro/kWh-

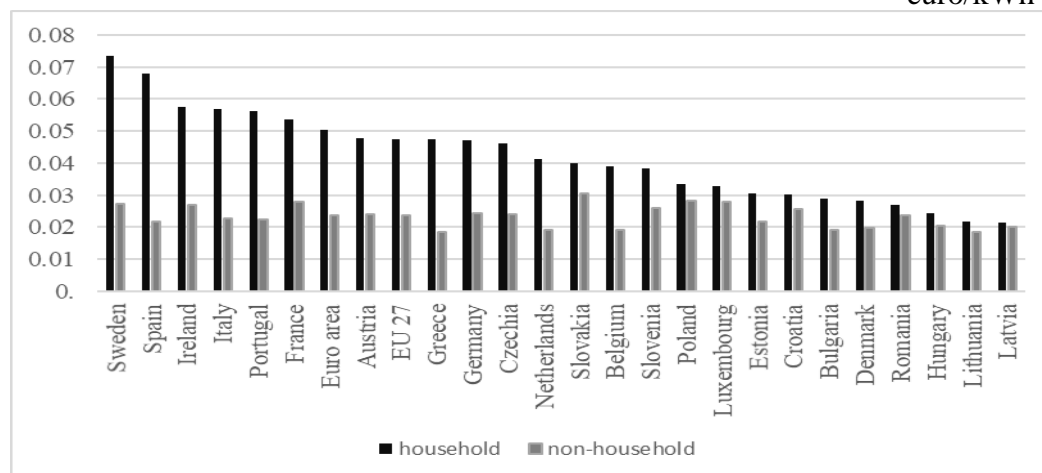


Source: Author's processing based on Eurostat data,  
<https://ec.europa.eu/eurostat/data/database>

2020 was a special year because it was the year of the Coronavirus pandemic beginning in Europe, and European economies faced for the first time a crisis caused by health causes, not

economic ones. The economic aspects of the health crisis are unprecedented and they required a set of responses very different from those used to counter previous economic crises. However, if we refer to energy prices, they did not change significantly last year.

**Fig. no. 2 - Gas prices in EU countries in the second half of 2020**  
- euro/kWh-



Source: Author's processing based on Eurostat data,  
<https://ec.europa.eu/eurostat/data/database>

We started our analysis with the second semester of 2020, considering that in March last year, the World Health Organization was declared Coronavirus Panedemia worldwide.

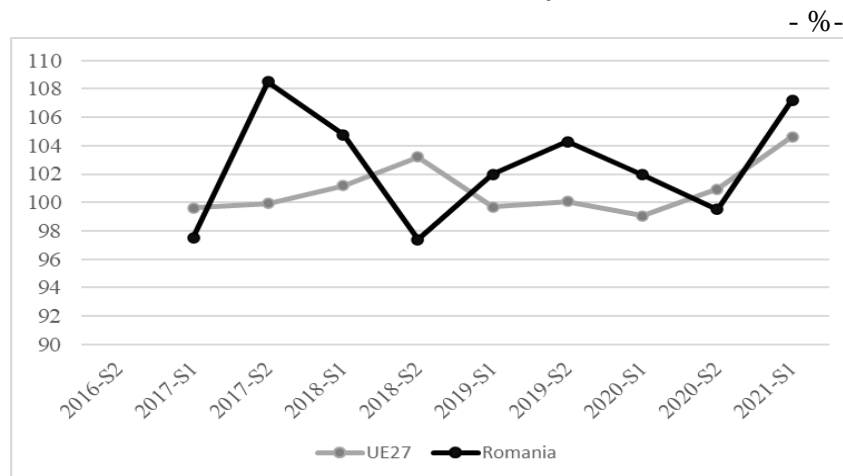
Based on the data presented in the above figures, we can observe that in the second half of 2020 in Romania there were relatively low levels of energy prices for domestic and non-household consumers, compared to other European Union countries. Also, the price of natural gas for household consumers was, during this period, the fourth lowest price in the EU.

Against the background of a relative economic recovery in the first part of 2021, but also due to a higher energy consumption, mainly among household consumers caused by working from home, over the past year, at europenan level the energy prices are rapidly and widely growing starting in the middle of this year.

The increase in electricity prices can also be explained by the increase in natural gas prices from imports, from non-EU sources, mainly from Russia, which prepares the ground for the putting in operations the Nord Stream 2 gas pipeline. We have to keep in mind that in the European Union about 20% of electricity production is obtained through natural gas plants. This leads to an increase in electricity prices at EU level in line with natural gas prices.

Regarding Romania, electricity prices for household consumers increased in the first half of 2021 at a higher rate than the average increase in prices in the European Union (Fig. no. 3). Besides, we can observe that in all the semesters of the last five years in which Romania registered an increase in the price of electricity for household consumers, this increase exceeded the average price increase in the European Union. The existence of this gap shows that, in addition to external factors, internal factors (high demand, supply strategy of producers, liberalization of the energy market, etc.) have played an important role.

**Fig. no. 3 –The dynamics of electricity prices for household consumers in the EU and Romania in the last 5 years**



Source: Author's processing based on Eurostat data, on <https://ec.europa.eu/eurostat/data/database>

Taking into consideration, the internal factors which influence the Romanian energy market, "beyond the necessary policies to protect vulnerable consumers, both domestic and industrial consumers, those procedures and market behaviors that induce deficiencies and amplify discrepancies at the level of price dynamics need to be radically reviewed". In this context, ANRE and the Competition Council have a key role, which must be exercised especially during this period.

However, it is essential that the current corrective measures do not induce adverse effects on the development of the energy sector in the medium and long term, do not discourage investment in new production capacities or jeopardize the security in the energy supply and our energy security.

In this regard, the intervention measures must be harmonized at European level and brought into line with European legislation, so that common problems at European level are addressed through converged national solutions that alleviate the imbalances in the energy market, not exacerbate them. "(Marinescu, 2021)

### Conclusions

The Coronavirus pandemic produces wider effects than those related to public health, with profound and long-term socio-economic consequences. The factors leading to energy poverty have increased since last year, by revenues lowering or losing and bills rising due to increased energy consumption.

Public policies in the field of energy need to be strengthened in order to reach a resilient and fair market in which the consumer plays a leading role. The pandemic has given rise to economic imbalances that risk undermining social cohesion. In this context, it is necessary the development of a solidarity pact to reduce social inequalities, focusing on the health and well-being of the vulnerable population. A proper distribution of pandemic costs between households, state and private sector is necessary to protect the energy vulnerable population. We also emphasize the need for further efforts in research and development in order to better understand the impact of such global crises on the population in a state of vulnerability or energy poverty.

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