COVID-19 CRISIS AND RENEWABLE ENERGY MANAGEMENT IN EUROPE

Stelian Pânzaru[*]

Abstract*: The COVID-19 crisis emphasizes the need to use renewable energy sources to boost economic competitiveness, strengthen energy security, ensure accessibility, create new jobs, and improve air quality across Europe. Central and South-East Europe's energy systems could be transformed through massive uptake of cost-competitive renewable power generation, efficient electrification of heat and transport, and increased investments in sustainable bioenergy across the regional system.*

Non-renewable energies are closely related to energy policy in Europe. All forms of energy are used to serve to generate electricity, hot water, and other opportunities. Energy is vital for the functioning of Europe and developing a common energy policy is welcome. The European Energy Charter and the Green Paper Energy are some ways to support the political unity of the EU.

Key words *(keywords): Unconventional Energies, Energy Policy, the European Energy Charter, the Green Paper, Green Energy, Transparency, Single Energy Market, Energy Industry.*

JEL Classification: *J53, M11, N14, N74, O32, Q42, Q.43, Q47*

1. Introduction

Energy is vital to Europe's functioning, but it seems that the period in which Europe has secure and cheap energy resources is over. All EU members are facing the challenges posed by climate change and dependence on increasingly higher imports and higher energy prices.

Non-renewable energy refers to forms of energy produced by the transfer of energy from renewable natural processes. Thus, the solar

[*] *Spiru Haret* Univerity, Faculty of *Legal Sciences and Economic Sciences,* Braşov, Romania, panzarus@gmail.com

energy, the wind, the water, the biological processes, and the geothermal heat can be captured by people using different methods. Non-renewable energy sources include nuclear energy and energy generated by burning fossil fuels, such as oil, coal, and natural gas. These resources are limited to the existence of such deposits and are generally considered non-renewable.

All these forms of energy are used to serve to generate electricity, hot water, etc. To stop the rising concentration of carbon dioxide in the atmosphere by 2050, the current global emissions must be halved at the planetary level and thus reduced by 3 to 5 times in developed countries.

Romania is involved in the process of rapid transition to large-scale use of renewable energy. In 2019 over 130 experts from 27 European countries and over 20 different institutions and organizations participated in Bucharest in the 4th Conference of the second stage of the Consultation Forum for Sustainable Energy in defense and security sector (CF SEDSS II).

2. Europe's green paper on energy

The legal framework of cooperation to implement the principles of the Charter was developed by the Energy Charter Treaty. This is a multilateral document signed in December 1994 in Lisbon, with the objective of "establishing a framework to promote long-term cooperation in energy field" [1]. The treaty is based on the principles of the internal energy market and represents an extension of it to Europe and further on.

The final report of the Green Paper on Energy, resulting from a public debate of a magnitude unprecedented in the past 30 years, was presented by the European Commission on 27 June 2002. A moment which gave a signal of acceleration in the development of the common energy policy took place at the Barcelona European Council (March 2002): the complete liberalization of the electricity market for industrial and commercial customers since 2004.

Energy Green Paper is the first truly important energy achieved after 70 years in Europe and is a strategy based on long-term energy of the European Communities [2]. Its aim was not to provide solutions, but to alert the current status of energy sector and the implications and consequences of energy consumption on the economy and environment.

The Green Paper highlights the need for renewables to become an increasingly important part of the structure of energy. Conventional energy sources with lower potential pollutant (oil, natural gas, nuclear energy) are reviewed in the sense of support, through them, develop new energy resources.

Nuclear power. Fears of global warming have changed the perception of nuclear energy. It is recognized that the use of nuclear energy and the renewable energy with high efficiency, leading to limiting the effect of greenhouse gases emitted by fossil fuels.

Fig. 2.1. Romania is one of the smallest producers of nuclear energy in the European Union

The total abandonment of nuclear energy would mean that 35% of the electricity production will be covered by other sources. Therefore, the nuclear option remains open to those European states that want it. However, the processing and transport of radioactive waste remains an unresolved issue.

The internal energy market is the only one that can ensure healthy competition and ensure the security of energy supply, increasing competitiveness of the European economy, but requires cross-border capabilities improved.

Energy trade in the EU. There is a plan for developing the infrastructure for gas and electrical networks and several projects of European interest were identified.

Fig. 2.2. Development of electricity distribution networks in the EU

Green energy sources and renewable energy (biomass, solar energy, wind energy, hydro, photovoltaic Pila etc.) have already become, for industrialized countries, the national structure of energy production.

In this context, renewable energy was first seen as a possible alternative to oil. When oil prices fell sharply in the 80s, the vision of "solar" became attractive again.

Fig. 2.3. Expansion of green energy production facilities

The report on the internal market shows the risk of discrimination and abuse when controlling both the power networks and the production or the sales, protecting national markets and preventing competition. Also, such a situation discourages firms with vertical integration, which do not adequately invest in networks, because they increase the capacity of networks, the increased competition in their domestic market and the market price falls.

In this context, the Commission called on Romania to remove barriers to exports of natural gas. This reasoned opinion to Romania concerns the failure to eliminate restrictions on trade in natural gas between Member States as required under EU rules for the internal market in natural gas (Articles 35 and 36 of the Treaty on the Functioning of the European Union, TFEU [3], Directive 2009/73/EC [4]). Following a previous reasoned opinion, in July 2014, Romania amended its laws.

However, after the new rules, the Commission found that an obligation to sell natural gas with priority on the Romanian market is maintained and, consequently, this violates EU law.

Transparency is essential for the functioning of the market. Currently, operators of the transportation systems provide information at different levels, so in some markets, new competitors can cope more easily.

The experience of recent years has shown that to enhance the viability of the EU electricity and prevent blackouts, minimum standards and common security binding networks are needed at European level.

3. Renewable energy policy

The internal energy market increases the interdependence of Member States in terms of energy supply, both for electricity and gas. Despite the goals of energy efficiency and renewable energy sources, oil and gas will continue to cover more than half of the EU's energy needs.

The EU has strong and fruitful relationships with traditional suppliers of gas in the European Economic Area (EEA), in particular with Norway, and outside EEA with Russia and Algeria. The EU is confident that, in the future, these relations will become even stronger.

In 1997, the European Union began to act to achieve the objective that the share of renewable energy in 2020 will amount to 12% of its energy sources, doubling the level of 1997. Since then, renewable energy production has increased by 55% but the EU, however, failed to reach its target.

Policy on renewable energy must cope with a challenge: to find a balance between the immediate installations of large capacity for producing renewable energy and providing a space that will allow research to help reduce those cost capacities.

Europe has two key objectives in terms of energy technologies: to reduce the cost of clean energy and make the EU take the lead in energy technologies with low carbon in growing.

By 2022, technologies must target that renewable energy is 20%, allowing an increase in the share figure of cheaper sources of renewable energy (including dissemination of large wind power and biofuels from second generation).

By 2030, the production of electricity and heating will use sources with lower carbon, but it is also required the extensive use of the power plants on fossil fuels with near zero emissions and the capture and storage of CO_2. Transportation will have to gradually adapt to the use of biofuels and the second generation of hydrogen fuel cells.

By 2050 and later, the European energy system should be based solely on sources with low carbon, which could include renewable energy, sustainable sources of coal and gas, hydrogen in major proportions, and nuclear fission.

The energy union builds five closely related and mutually reinforcing dimensions [5]:

- Security, solidarity and trust – diversifying Europe's sources of energy and ensuring energy security through solidarity and cooperation between EU countries;
- A fully integrated internal energy market – enabling the free flow of energy through the EU through adequate infrastructure and without technical or regulatory barriers;
- Energy efficiency – improved energy efficiency will reduce dependence on energy imports, lower emissions, and drive jobs and growth;
- Climate action, decarbonising the economy – the EU is committed to a quick ratification of the Paris Agreement and to retaining its leadership in the area of renewable energy;
- Research, innovation, and competitiveness – supporting break-throughs in low-carbon and clean energy technologies by prioritising research and innovation to drive the energy transition and improve competitiveness.

So, the investment in renewables could give the EU members:

- ✓ Savings on energy costs estimated at EUR 3.4 billion (about USD 4 billion) yearly by 2030;
- ✓ Benefits worth up to EUR 35 billion (USD 40 billion) with environmental and health impact factored in;
- ✓ Greatly improved security of energy supply;
- ✓ A more modern, resilient regional energy system;
- ✓ Closer alignment with Paris Agreement climate goals.

All the EU members possess additional, cost-effective, renewable energy potential beyond their existing plans and projections. This creates a concrete opportunity to redirect investments, to start building a renewable-based energy system, the report finds.

4. Fuel fossil with low CO_2 emitted

Coal and gas provide 50% of electricity supply and the EU will definitely remain an important part of our total energy resources. Long-term reserves are considerable, but coal generates almost double CO_2 emissions compared to gas. Less polluting coal-based production methods and reduced CO_2 emissions will be needed. Moreover, the development of such methods as cleaner capture and storage of carbon are of global capital.

5. The future of nuclear energy

Currently, approximately one third of electricity and 15% of the energy consumed in the EU comes from nuclear energy and it is one of the most important sources of energy without carbon dioxide (CO_2). Nuclear power is less vulnerable to fuel price changes than that generated by coal or gas, because uranium is a small fraction of the total cost of nuclear power generation, and it is based on sources which will

not be exhausted for many decades and are distributed widely throughout the world.

Nuclear power is one of the least expensive energy sources with low carbon products in the EU, and the costs are relatively stable. The next generation of nuclear reactors should reduce costs even more. The decision to rely (or not to rely) on nuclear energy is up to each Member State.

6. Energy industry

Promoting renewable sources is an issue of the potential of each country separately. At present, the carbon dioxide emissions is not considered too serious.

In creating the internal energy market, establishing the regulatory framework is not the most difficult task. Much more problematic is proving the law dominated in this sector. The adoption of gas and electricity, in fact the first concrete step towards the establishment of the internal energy market, proved to be the start of reforms in the economic sectors in most conservative countries in Europe, where monopoly rather than competition was considered as a natural state of things.

The issue of safety in the supply of electricity. Dependency of imported energy resources lead to a safe low energy supply. However, the increase in food safety only, reducing imports and increasing domestic production, would be insufficient and would betray a simplistic approach to the problem. The Commission believes that the key problem is much more complex, including, among others, the diversification of energy sources, technologies, and a new type of management of energy demand.

The reason is that in Romania there are additional storage capacity for minimum stocks mentioned. Rehabilitation of existing capacities will cost around € 3.5 million / year and maintaining stocks, 48 million €. Stocks minimum will be managed by a structure created in the Ministry of Industry and Resources. For Directive 98/93/EEC on safety stocks,

Romania requires both a waiver from 90 to 67.5 days, and a transitional period of 5 years.

High energy prices have negative effects particularly in developing countries. While few such countries can benefit as producers, in others, high energy import prices exceed revenues. Thus, the EU has committed themselves to assist developing countries in promoting energy supply and to use it in a sustainable and secure way.

To meet the above commitment, the EU should focus on distributing affordable, reliable, and sustainable energy services to the poor, especially from renewable sources, and develop clean and efficient technologies for oil and gas production. Monitoring, reporting and transparency will be essential in the development of a progressive energy policy effective in the EU. The Commission proposes to establish an Energy Observatory within the Directorate General for Energy and Transport.

Conclusions

For decades it has been considered that energy can not escape the pressures of competition. The complexity of the problems of energy increases as the number of actors, be they suppliers, manufacturers, traders, and market regulators, increases. Hence, an exacerbation of the global environmental issues ignored for decades. The same is true for the the European Union's energy policy, whose central pillar is the market power. As some problems are solved, new ones appear, and they are more and more complex.

Adverse developments related to the continuous growth of dependency on energy imports, with implications for food safety and the long-term influence on consumption and development, with increased emissions, are challenges that the European countries have to face in an effort whose purpose is found in the energy policy.

References

[1] *The Energy Charter Treaty and Protocol*, https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=LEGISSUM:l27028&from=RO

[2] *A European Grean Deal – Striving to be the first climate-neutral continent* https:// ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en

[3] *Treaty on the Functioning of the European Union* (consolidated version), https://eur-lex.europa.eu

[4] *Directive 2009/73/EC on common rules for the internal market in natural gas,* https://eur-lex.europa.eu/legal-content/FR/ALL/?uri=elex%3A32009L0073

[5] *Five dimensions of the energy union*, https://ec.europa.eu/energy/topics/energy-strategy/energy-union_en