Ensuring Energy Security in the Republic of Moldova in the Context of Global Challenges

CONACU Vasile,
University Lecturer, PhD researcher,
Faculty of International Relations, Political and Administrative Sciences
Moldova State University
GROSU Inesa
MA student, Specialty Diplomatic Studies
Faculty of International Relations, Political Sciences and Public Administration.
Moldova State University

Abstract

In this article author refers to the main energy security threats in the Republic of Moldova in the context of global challenges, because energy security obtained new meanings and became one of the strategic problem for this country. For these reasons, an important direction of foreign policy is the perspective of providing energy security, which includes: the availability of pipelines and terminals, future routes for pipelines, partnerships etc. Therefore, energy resources such as natural gas, oil and electricity are no longer a problem of geologists, economists and technicians only, they become more of a course of foreign policy, with the energy factor often being used as an implementation mechanism of certain geopolitical and geostrategic interests.

Key-words: *energy, security, globalization, energy sector, policy, network of pipelines.*

Energy security obtained new meanings on the European continent over the past 20 years, including possession of sufficient energy resources, accessibility and its safe transportation, which relates directly to the energy security of the state, union of states or a region as a whole. This is explained by the growing interdependence between natural resources, especially energy resources, and the macroeconomic development of countries and regions, which in fact have substantially reshaped the relationship between different international actors both in Europe and worldwide. Moldova is not an exception in this case. As the economic development of a country depends heavily on energy resources, it becomes a strategic branch for each state, as well as for us. It should be noticed that limited access to energy resources or loss of the mentioned accessibility leads to unfavorable consequences. For these reasons, an important direction of foreign policy is the perspective of providing energy security, which includes: the availability of pipelines and terminals, future routes for pipelines, partnerships etc. There is no wonder why it is stated that nowadays, in the age of globalization and economic interdependence, geopolitics is dominated by resource strategies, especially by those related to the energy. Therefore, energy resources such as natural gas, oil and electricity are no longer a problem of geologists, economists and technicians only, they become more of a course of foreign policy, with the energy factor often being used as an implementation mechanism of certain geopolitical and geostrategic interests. However, it should be noted that the global energy future belongs to natural gas, which is characterized by a high economic and environmental effectiveness. According to forecasts, the share of gas in primary energy consumption

in Europe will increase in the first quarter of XXI century from 20% to 30%, which leads us to focus on the gas industry in this study.

The research "Insurance of energy security of the Republic of Moldova in the context of global challenges" includes an analysis of the situation in the energy sector in Moldova, the investigation being held in the following areas: analysis of evolution in natural gas, electricity and renewable energy sectors; analysis of legal and institutional framework in the domestic energy industry, plus the access of the Republic of Moldova to the international institutional instruments in this field; the analysis of external and internal capabilities for domestic energy security. On the one hand, the improvement of the energy efficiency in industrial processes will be equivalent to a significant reduction of CO2 emissions; on the other hand, companies will reduce operating costs and enhance the competitiveness of economic activity. In the study we use two analytical tactics: the horizontal and the vertical ones. The horizontal tactic includes the research of the each separate energy field mentioned above and of the domestic law, which allows us to outline a general picture of the actual state of Moldovan energy industry. The vertical analysis includes the scrutiny of the opportunities, conditions and instruments available regarding the increasing level of assurance of the national energy security plus the identification of solutions on this line.

In this context, it is worth mentioning that, on the one side, through a horizontal analysis, we reach certain conclusions regarding the actual energy situation in the whole territory of Moldova; on the other side, thanks to vertical analysis we can suggest the necessary recommendations that would fit with the new geopolitical and geo-energy realities and that could have a direct impact on energy security on the entire territory of the country and on the welfare of its population.

In this context, it is important to note that achieving the second objective requires an analysis, which should be carried out by taking into consideration the new realities in the region, namely: the evolution of the Ukrainian crisis and the overall situation in the Black Sea region; the energy-themed relations between Moldova and Russia, the EU and Russia, Ukraine and Russia; the membership of the Republic of Moldova in the European Energy Community; the consequences of signing of the Association Agreement and the creation of a free trade zone with the EU for Moldova.

In this context, it is important to look at the inner sectorial array of threats, which has common tides with theexternal geopolitical factor. Specifically, there is an energy security issue: a nationwide dependence on foreign energy producers and suppliers. This major problem is a product of the lack of traditional energy resources in Moldova, the legacy of a system of distribution and consumption of energy infrastructure from the Soviet times, as well as the absence of a national policy of modernization and energy restructuring based on efficient and sparing consumption, the presence of interests of foreign companies who deliver their products in the country, as well as the control of state institutions through a rigid policy of monopoly, whose interests are to keep Moldova as a dependent importer with no system of national energy production, and maintain the unwillingness of the leading elites to create strategic plans of energy provision for the state. Currently, Moldova is not able to meet its energy needs, because it is totally dependent on the import of the energy resources. This issue has a direct impact on the

aforementioned problem, namely the economy, because energy is an indispensable subsystem of the national economy [1]. Consequently, in case of energy consumption in Moldova, all areas of state infrastructure are adapted for a certain preference for the main types of existing energy resources on the world market, especially petroleum products, solid fuel, electricity, thermal energy, as well as alternative energy [6].

As of now, natural gas, electricity and oil derivatives prevail as the main consumed resources. For the most part, all types of energy products are imported, what represents the biggest problem and the critical point for the national economy, confirming a total dependence on a single supplier - Russia. The gas supply infrastructure network built in Moldova is solid one, both for domestic consumption, as well as the for presence of transit networks. The network of pipelines for domestic consumption reach the number of over 21 000 km, and the bus transit stretch a length of over 1,600 km. They are an extension coming in Ukraine, with an annual transit capacity of around 20 bcm. On the north we have Ananiev - Drochia - Cernăuți- Bogorodceani pipeline, intended for connection to theBogorodceani storage depot in the Ukraine, and on the south we have three pipelines: I.Ananiev – Tiraspol – Ismail; II .Şebelevka – Donețk- Krivoi Rog –Razdelinoe – Ismail [2, p. 42]; III. Razdelinoe-Izmail. The annual consumption of Moldova, with Transnistria combined, reaches an average rate of 2 billion m³, which corresponds to a price over $ 300 per thousand cubic meters. This reflects the fact that the share of natural gas in the balance of imported and used energy resources is quite high. In this context, we should make reference to the fact that Moldovagaz – a state structure managing the natural gas industry in Moldova that has access to the infrastructure of transit and distribution of natural gas in the country, whose shareholder is the Moldovan government, holds a stake of 36.65% thus being at a disadvantage. In fact, this structure is basically controlled by Gazprom which is in numerical advantage regarding the shares at Moldovagaz. At the moment, it has reached the figure of 50.02%, what means that the Russian monopoly is able to dictate prices and manage the flows of gas into the country, as well as the national policy, considerably limiting the possibilities of the Government to efficiently administrate this process, as well as to negotiate an optimal price for imports of the product.

In conjunction with the issue of prices and dependence on gas imports from a single source, it were attempts to look for alternative solutions, one of which is construction of the so-called strategic project "Iași-Ungheni Pipeline (Chișinău)". A gas pipeline that comes from Romania to Moldova, crossing the Prut river, it was released towards the end of 2013 and the works were finished in August 27, 2014, the inauguration was attended by the Prime Ministers of both countries, Iurie Leancă and Victor Ponta. In the opinion of Moldovan experts, the pipeline was planned in order to reduce, partially, the consumption of Russian gas, that it is very expensive, so the Romanian pipeline is seen as an alternative solution to both: the quality and as well as the price.

According to the project, the route length is about 43.2 km, 11 km of which pass through Moldova, with total costs up to now € 26.5 million, financed by the European Commission and the Government of Romania in proportion of 80%, of which 18, 2 million euro costs the pipeline in Romania and the 8.3 million euro in Moldova, including tailboard of Prut river (2 million euro) [2, p. 6]. Respectively, thesupply capacity of this pipeline is 1.5 bcm more than the 1.3 billion m³ of annual consumption needs

of the country, with a rate of 1,010 Romanian lei which is $ 277. Despite all the circumstances, enthusiasm and the tempo with which it was started, this strategic plan was partly done up to now, although the construction works were completed, there are not viable deliveries, stopped not for lack of gas, but by the Moldovan side, that showed lack of interest, invoking the idea that this pipeline will be operational only after its extension to the Chisinau with a precise deadline: 2018. We can deduce from this double behavior of our authorities, that in halting this project e great impact had the constraint of Russian factor, which does not support the competitors in the energy market, thus proposing some offers more lenient which Chisinau has accepted after negotiations on fixing charges for the last year and this year, too. Thus, while the Republic of Moldova is so linked to an external partner both: in terms of gas imports and as well as in management of national natural gas industry, the authorities are obliged to identify alternative solutions in order to reduce energy independence and ensure a sterling energy security.

The Republic of Moldova must intervene in certain directions, even if the options were limited: legislation, that allowed and still allows the existence of, de facto, monopoly in gas domain, the control is almost entirely owned by a single actor - Gazprom. Geographical and geo-economic factor, that didn't allowed and still doesn't allow fully the diversification of import sources and identification of alternative viable Russian gas [4]; - the influence of politics and geopolitics, which already plays a crucial role in setting energy relations between Moldova and Russia or the dependency of RM of bilateral relations, such as the Russian-Ukrainian or Russian- European energy crises in 2006, 2009 and the high probability of another crisis are some good examples.

Similarly, other examples that determine the importance of political and geopolitical factor in our case can be: a prolonged lack of consensus in the negotiations on a new agreement between Moldova and Gazprom. The financial potential and investment, which is relatively low, which did not previously allow and do not allow even now a fundamental change in the structure of the main energy resources, so that in the real and domestic sector to prevail import resources, such as natural gas. For example, in the early 90's the coal and the fuel oil that were used in much larger volumes, which led these energy resources to have a significant share in the energy balance of the country. Or, this thing allowed the state at that time to hold sufficient autonomously reserves for the functioning of the national economy for 90-120 days, compared with 15 days from today.

The issue of gas prices is in close connection with another matter, namely energy and electricity consumption, which is largely produced from natural gas consumption. The statistics of electrical energy needs from Moldova are a bit more positive, respectively 25% of total consumption sources are locally-sourced and 75% [7] being imported which constitute about 1000 megawatts, the required volume of annual consumption. Such as national sources of electricity generation we have few industrial centers which experts believe, have the capacity to manufacture around 443.5 megawatts, in this case we mention thermal power station I and II and North enterprises with 330 megawatt and hydroelectric plant from Costeşti with the capacity of 16 megawatts. In the region uncontrolled by the authorities from Chișinău on the left bank of Nistru river, the situation is much better on sourcing and production of electricity, which is produced based on natural gas consumption, and in case of crisis as alternative, it can

operate based on oil, fuel oil and coal. Here we mention the Kuchurgan power station, from Dnestrovsc region, which is the largest power plant in Moldova with a production capacity of 2,520 megawatts and the hydroelectric plant from Dubăsari with a capacity of 48 megawatts. Previously the imports of electricity were made from Ukraine, but after the critical situation produced on its territory, on the order of the Ministry of Energy and Coal Industry of Ukraine from 28.11.2014 were suspended the deliveries of electric power to Moldova.

In these circumstances, our state addressed to the Transnistrian company from Kuchurgan with the wish to increase the volume of electricity generation, it manifested itself as a reliable partner according to experts of Ministry of Economy of the Republic of Moldova. Regarding the Transnistrian's trend policy, it is negative in relation to compliance, status of neutrality sovereignty and territorial integrity of Moldova, but in economic financial plan, the rules of the market require from Transnistrian companies to comply with the Moldovan legal framework in the area of common interest export of electricity that is a real example especially because of the exports of electricity in according to the provisions of international law, as well as because the electricity transmission network from Transnistrian region, technically belongs to Moldovan energy system and provide interconnections with the energy systems of the neighboring countries" [2, p. 11]. Similarly, it is said that Moldova also cooperates in this field with Romania on supplies of electricity, with which we have an overhead (aerial) highway with capacity of 400 kV Vulcănești-Isaccea and three smaller lines about 110 kV.

In regard to the supply networks on the territory of the Republic of Moldova, we also have a problem through the presence of two companies: Red-Nord Ltd. and Gas Natural Fenosa. Generally portraying themselves as independent companies, their practical role in the supply chain is no less than providing power to the consumer in exchange for a tariff, plus the cost for energy imports. In addition, the whole supply infrastructure was built during the Soviet rule, which means that the companies have simply taken over a network which was once state property. These enterprises benefit from a particular autonomy in relation to the state, and the only bodies able to exert coercive authority over them is the National Regulatory Agency on Energy and the Government, through the Ministry of Economy. In our opinion, in order to minimize the threats and risks in regard to energy security, the establishment of a more efficient control mechanism over these companies must be an essential asset of the national strategic initiative.

Moreover, this necessity is even more justified as the main task of the enterprises is centered on gaining profits rather than providing security to the economic infrastructure of the state and its citizens. In such a context, a national takeover of the distribution network owned by Gas Natural Fenosa would prove to be a viable idea. The main reason behind this initiative is that in the last decade, the company has demonstrated its inefficiency by solely acting as a supply intermediary, whose only role is to stimulate tariff increases by adding a WATT, necessary to sustain its technical and administrative apparatus. A more effective way to manage of the energy sector, which after all is a national strategic component, would be to offer guaranty funds and allow for national administration. In this very same context, we might also add the partial lack of efficiency of the National Regulatory Agency on Energy itself, which

despite its comparatively massive expenses of public funds, doesn't generate much either. Therefore, by taking over the management of Gas Natural Fenosa, the state would considerably reduce the regulatory needs and implications of the National Regulatory Agency on Energy, thus optimizing the public expenses.

By concluding the problem of energy insecurity in the Republic of Moldova, we have to mention that the resulted situation is a product of interrelations posed by other existent issues, whose connections create a disadvantage for the national security system. All these threats have a common source, and that is the dependency on imports, with a special emphasis on natural gas that remains the main resource of the energy producing infrastructure within the country. In this context, diversifying the imports from different energy providers is a must, and here we may talk about perspectives for negotiation and cooperation in the Caspian Sea region, where Azerbaijan, for example, has a great potential in terms of resources that would potentially contribute to a better environment for competition and diminish the Russian monopoly at the same time. At the initiative of the EU, the European Strategy on Energy, or „Europe Strategy 2010" as referred to by the experts was adopted, and in a show of solidarity, the Republic of Moldova created its own strategy called „The Energy Strategy of the Republic of Moldova (2020)", and then revised for 2030 [5].

The major objectives of this document bear a significant importance and actuality, covering the most stringent issues of the entire sector, among which are: assuring the national energy security of the state, developing a competitive energy market, assuring a durable policy on the energy sector and dealing with climate and environmental change. In this order, the problem of conserving the environment is set through „directions of consolidation and capitalization: CHP", which suggests the dismantlement of the current energy production facilities and building completely new ones, by expanding the installed capacity and integrating the transport and supply network based on renewables" [1].

Even though it covers problems of extreme importance, in our opinion, the document fails to provide a pragmatic approach on the establishment of a new system of measures and mechanisms that would allow for a more mobile and autonomous method of maintaining energy independence. A potential interconnection with the European energy systems can prove beneficial, but only on short term, since the EU is equally dependent on Russian imports. Creating a strategic plan that would make up for the necessities of an autonomous energy independence regime can be far more efficient, especially in crisis situations.

Another perspective could be offered by applying the new technological advancements in the field of renewable energy, which by and large is neglected and strangled by the big traditional energy producing companies both home and abroad. In consequence, an artificial growth in prices for new technologies and installations make them less accessible on the market overall.

On the public policy level, likewise, there is no clear approach on implementing the new initiatives or adapting the energy infrastructure for these more ecologic, accessible and practical technologies, also able to considerably reduce the public expenses on imports. According to the specialists, the technical potential for the main types of renewables that can be put to good use in the Republic of Moldova are:

solar energy, wind power, biomass waste and hydropower, which generally have a total capacity of 2, 7 thousand m³. Overall, these types of energy generation facilities are in an early stage of development, thus being largely experimental. Lacking the necessary political support, the whole process being put on hold further. Nevertheless, we may as well mention some of the projects initiated by enthusiasts and entrepreneurs from the Republic of Moldova, which have proved to be practical and efficient: the solar panel system used by the Oncology Institute in the municipality of Chișinău; two biogas production facilities, with one being located in the village of Costuleni, Ungheni district, with a capacity of 75 kW/h, and the other industrial facility belonging to „Sudzucker Moldova" Ltd. in Drochia, the only of its class in the country, with a power-producing capacity of 2 MW/h and 2,4 MW/h for thermal energy. On the basis of this analysis regarding the real situation on electric energy, natural gas, renew gas, renewables and energy efficiency in the Republic of Moldova, and also on the external and internal opportunities that may contribute to the energy security of the country, we can conclude on the following:

The vulnerability of energy security in the Republic of Moldova is caused by the lack of central control over the energy sector, especially on natural gas supply, which as of now is in the hands of a foreign actor. Likewise, this vulnerability is caused due to excessive import of energy resources, such as natural gas (100%), the only provider in this case being the Russian Federation. Thus, the lack of viable import alternatives is essentially narrowing the flexibility of the state authority in negotiating better tariffs for new supply contracts. As a short and mid-term consequence, there is little chance for the situation to change for the better, because, as mentioned above, there is a lack of instruments, possibilities and opportunities in this field.

The share of natural gas and power, which are largely imported resources, is quite big among the total quota of consumed energy resources. Therefore, both communal and industrial activities depend on the political economic arrangements in relation to obtaining the necessary energy resources. Essentially, the current state of the matters, combined with the lack of reserves for crisis situations directly contribute to the macroeconomic vulnerability of the state. The renewable and energy efficiency sector is fairly new in the Republic of Moldova, which leaves this segment underdeveloped, underfunded and lacking in otherwise unexplored opportunities. On the territory of the Republic of Moldova, there are adequate conditions for developing this sector on a large scale, largely based on biomass, solar energy, wind power and hydropower.

Joining the European Energetic Community would be an important step for the Republic of Moldova in its process of European integration and rapprochement to the EU energy standards, which might contribute mid and long-term to the enhancement of national energy security. This obviously implies benefits, like: - an access to a borderless market between the EEC member states; - de-monopolizing the energy market and stimulating competition that would allow for supply security and risk reductions for shut-downs or poor services; - opportunities to take part in regional and international energy projects; - the establishment of clear regulations, a unique legal framework and a stable functioning mechanism for the regional energy markets; - reciprocal aid and assistance between the states in crisis situations and other disturbances; - investments in modernizing the energy infrastructure, which may allow for increased energy efficiency.

The Republic of Moldova does have possibilities, including technical ones, to take advantage of international energy projects, or thanks to the natural gas on the Black Sea shelf and shale gas from the Ukraine and Romania. But these possibilities are hostage to medium and long periods of time due to technical, financial, political and geopolitical factors. Even so, identifying alternatives to the Russian monopoly on gas is a vital question in providing energy security for the Republic of Moldova and ensuring the economic sovereignty of the state. There is internal potential in developing the sectors of natural gas, electric energy, renewables and energy efficiency. But short and mid-term, the most viable option looks towards alternative energy sources, since the aforementioned ones can only be catered for in the distant future, due to costs and technical complexity. Developing this sector would directly contribute to diminishing the reliance on imports, thus paving the way for a positive trend on the current Moldovan energy dependency. Renewable energy and energy efficiency initiatives are only stating to take roots, and, since the economy of our country is influenced so much by energy imports (particularly natural gas) and rising energy tariffs, we can underline once again that renewables represent a good solution for covering electricity and heating needs. This idea is also supported by the National Action Plan on Renewable Energy for 2013-2020.

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