

## ENERGY SECURITY OF ARMENIA: MAIN ACHIEVEMENTS AND CHALLENGES

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Ensuring a high level of energy security can be viewed as one of the main achievements of Armenia during the 20 years of independence. Its significance is emphasized by the fact that the newly independent Armenia started its history with an acute energy crisis, and its influence on the social and economic life in some cases was devastating. However, Armenia marks the 20<sup>th</sup> anniversary of its independence as a regional energy centre with diversified energy imports and considerable export potential.

### *Energy security of Armenia on the eve of independence*

In reference to Armenia's current energy system and level of security it should be mentioned that the energy sector had undergone profound changes already in the last years of the Soviet Union's existence. In the late 1980s when Armenia was a part of the USSR, its energy system experienced comprehensive changes – in 1988 the authorities of the Soviet Armenia made a decision to shut down both power-generating units of Metsamor Nuclear Power Plant mainly due to the public pressure. In 1988 after the earthquake in Spitak, many representatives of the Armenian intelligentsia and leaders of the rising independence movement actively convinced the public that the Nuclear Power Plant constituted an environmental threat to the country and its further operation would endanger the very existence of Armenia.

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At the same time no expert or specialist evaluation was given before shutting down the nuclear power plant and it was a largely political decision to suspend the operation of the two power generating units. The shutdown of these two crucial power generating units caused structural changes in the energy industry and most of the burden for electricity production fell on thermal power plants. Under stable fuel oil supplies from different parts of the USSR, Hrazdan and Yerevan thermal power plants were able to maintain stability of the energy system. However, due to the breakdown of the railway connections passing through the territories of Georgia and Azerbaijan the supply of the fuel oil was suspended in early 1990s. Later on the Armenian energy system found itself in a state of total collapse following the termination of the natural gas supply through the territory of Azerbaijan, and partial halt in operations of the gas pipeline passing through Georgia. This resulted in the 1992-1994 energy crisis, when the energy facilities produced only 10-15% of the electric power necessary for the Armenian economy and population.

***The revival of the energy system  
and the main achievements***

The profound energy crisis of early 1990s played an important role in development and implementation of Armenia's energy strategy. Moreover, it can be stated that the energy crisis and its gravest effects on socio-economic and public life indirectly caused the change of the vision for the development of Armenia. The main element of these changes was that the anti-Russian sentiments, which arose in the first years of Karabakh movement and struggle for independence, disappeared from the national political and public life. According to these sentiments Moscow was the main obstacle on the way of Yerevan and Stepanakert, as Moscow opposed creation of the NKR, and later establishment of independent Armenia. The energy crisis, the main reason of which was not Moscow, but rather the blockade imposed by Azerbaijan and Turkey, as well as the civil war in Georgia on the one hand, and war with Abkhazia and South Ossetia on the other, broke the anti-Russian stereotypes formed in Armenia in late 1980s and

early 1990s. This compelled to treat Armenian-Russian relations more rationally and the revival of the Armenian energy system became a fundamental part of these relations. In fact, amid the energy crisis, rationalism and pragmatism that since the escalation of the struggle for independence have ceased to play any significant role in the political processes in Armenia (and as a result of which the nuclear power plant and a number of the chemical plants claimed to be hazardous for the environment were shut down), reemerged again as factors in the process of political decision making in independent Armenia. The fundamental changes in the structure of the Armenian economy began from the energy sector mostly due to the crisis occurred during the first two years of independence.

Some of the important components of these changes were as follows:

*1. The April 7, 1993 Republic of Armenia Government Resolution on Initiating Refurbishment Works of the Armenian Nuclear Power Plant and Re-commissioning of the Second Power Generating Unit.*

The importance of this decision is stemmed from several factors.

Firstly, re-commissioning of the nuclear power plant secured solid grounds for the energy security of Armenia, ensuring electricity production regardless of the situation in Georgia or official Tbilisi's instable policy concerning the gas pipeline coming from Russia to Armenia through Georgian territory.

Secondly, when the decision on re-commissioning the nuclear power plant was made only four years had passed since shutting down the plant. The decision to reopen the nuclear power plant, which had been shut down mainly because of the public pressure, was not exclusively political: in 1993 there was a rather serious public support of this decision, which is proven by an important fact: within just four years a drastic change of public opinion took place in Armenia. Now it was based on rationalism directed by the aspiration to ensure a safe existence.

And thirdly, although reopening of the nuclear power plant had almost immediately had its positive effect on the state security, in 1993 it was already clear that the plant would operate for a limited time and sooner or later it would have to be shut down because of technical and other reasons. This realization, periodically affirmed by the European demands to develop a strategy and timeta-

ble for shutting down of the nuclear power plant, played an important role in changing the vision of Armenia's energy security and necessitated boosting the development of other energy facilities as alternatives to the nuclear power. First of all this concerns the creation of thermal power capacities and development of small and medium size hydro power plants.

*2. The Republic of Armenia Government Resolution of September 9, 1997 on Establishment of the Russian-Armenian ArmRusgasprom CJSC.*

Despite the recent widespread criticisms, the actual sale of the Armenian gas transporting system to the Russian Gazprom Company was a necessary and at the same time right decision. In order to correctly assess this reality, it is essential to look back at the situation in Armenia on the eve of 1997.

- Being practically idle for the first 5 years of independence, the gas transporting system of Armenia was almost totally destroyed. The Republic of Armenia and moreover, the Armenian investors were unable to pay for re-launching the system, or, to be more objective, for restoring it.
- In 1990s Armenia had no alternative to the Russian gas, as the talks held since 1994 between Armenia and Iran on construction of an Iran-Armenia gas pipeline resulted in nothing. Russia remained the only country which could export gas to Armenia and, what is no less important, Russia would not demand for this any changes in the regional policy of Armenia unfavorable for Armenians. First of all this concerns disparaging concessions in the process of settling the Nagorno-Karabakh conflict. Of course, energy related presence of Russia indirectly influenced the foreign policy of Armenia, making it more oriented toward Moscow, but such stance has not resulted in weakening the positions of Yerevan and Stepanakert and still less, in enrooting the idea of concessions in the Armenian society. The fact that Armenia's toughening stance and principled approach in the issue of the NKR after 1998 has not led to any complications of external economic situation, was determined by the circumstance that Russia did not impose any economic or price pressures on Armenia, as it owned the energy sec-

tor, the most crucial one in the economic system of Armenia. It is hard to say what would have happened if the energy sector were under control of state-owned or private companies of other countries, but it can be safely stated that the risk factor could have been higher in such case.

- As unfortunate as it is, we have to acknowledge that Armenia is not in position to pay international prices for the natural gas and electricity produced from it. The price for natural gas and electricity in Armenia has been and will be subsidized not by the state, but by the supplier. It is obvious that a \$180 per 1m<sup>3</sup> of gas is not an international price. It is subsidized by the exporter mainly for two reasons: the national partner of the exporter in Armenia is owned by the exporter and special price conditions are created for it, and, more importantly, the price for the Russian energy carriers has always been dependent on political factors, including the Armenian-Russian relations, and because of this the gas transporting system of Armenia became Russian property, ensuring low price for the gas imported to Armenia and electricity produced at the Armenian thermal power plants.

Therefore, the Armenian government's decision to create the joint Armenian-Russian Armrusgasprom CJSC, where the share of the Russian Gazprom increased from 45 to 80 percent in the course of time, was an important event for the Armenian energy sector. In the past years, the company has managed to secure the Gazprom-subsidized low pricing, which allowed the Armenian economy to revive quickly in an off-market mode. The company has invested about \$1 billion in the restoration of the Armenian gas delivery network, construction of new local gas pipelines, as well as the Armenian section of Iran-Armenia gas pipeline, which became an alternative to the Georgian route of gas import to Armenia.

### *3. Construction of the Iran-Armenia gas pipeline*

Construction of the Iran-Armenia gas pipeline, supplying 2.3 billion m<sup>3</sup> of natural gas annually to Armenia, which is approximately equal to the annual gas consumption of the country, should be considered one of the main achievements

of Armenia's policies aimed at ensuring the energy security. Today, under the stable operation of the gas pipeline passing through Georgia, Armenia does not really need the Iranian gas. The gas supplied by the Iran-Armenia pipeline will be used for generating electricity and exporting it back to Iran. However in case of *force majeure* situations with the supply of Russian gas to Armenia, this gas pipeline can provide for the stable work of the Armenian economy. Thus, Iran-Armenia gas pipeline is not an alternative to the Russian gas as long as the Russian gas is steadily supplied to Armenia.

At the same time one should realize that the construction of the gas pipeline is aimed at not only safeguarding from *force majeure* situations, but it also plays an important economic role in the interstate relations between Armenia and Iran.

Despite the fact that Tehran established rather close relations with Yerevan after Armenia gained independence, the Armenian-Iranian relations have been mostly political for the recent two decades. For quite a long time Armenia needed Iran to avoid the blockade. In early 1990s when the transit of goods through the territory of Georgia was under threat, Iran became the most important channel for importing goods to Armenia. Over the same period the inflow of Iranian commercial capital to Armenia became a crucial factor in the social and economic life of the country. However, in the late 1990s the state of affairs changed radically: stabilization of situation in Georgia allowed Armenia to restore the trade and economic ties with the former partners, whereas the Russian investments in Armenian economy and formation of own national capital drastically decreased the economic and transit role of Iran for Armenia.

Under such circumstances the Armenian-Iranian relations in the late 1990s became mainly of political nature and in the absence of serious economic projects they might have remained the same. However, with the construction of Iran-Armenia pipeline Armenia began importing a strategically important feedstock from Iran and supplying electricity back to Iran, which is an equally important commodity. This gave a boost to the development and strengthening of the Armenian-Iranian partnership and preserved this partnership from becoming a solely political and declarative one, directed only to restraining some common adversaries.

In our opinion this should be deemed a major achievement for the Iran-Armenia gas pipeline, although there are some objective reasons to believe that Iran may eventually become a transit route for Armenian electricity exports to the Middle East.

Presently Armenia is the only electricity exporting country in the region, and a strategic significance is attached to the construction of new power generating capacities, as they will ensure the stability of the system after shutting down the Armenian Nuclear Power Plant in 2016, and will increase the electricity export volumes. These projects include:

1. building a new power-generating unit at the Armenian Nuclear Power Plant with a capacity of 1000 MW;
2. construction of a new power-generating unit at Hrazdan Thermal Power Plant with a capacity of 440 MW, which will be completed by late 2011;
3. installation of a new gas turbine unit with a capacity of over 200 MW at Yerevan Thermal Power Plant, which has been already implemented in spring 2010, leading to a drastic decrease of gas consumption for generating electricity at Yerevan Thermal Power Plant, and, hence, has cut the cost of the electricity produced;
4. construction of new hydroelectric power plants with total installed capacity of 1100MW, among which the small hydropower plants may constitute up to 50%;

Though the energy sector of Armenia has been strengthened in the past years and mechanisms guaranteeing its stability were created in the country, there are still some important strategic objectives to be attained in the years to come: construction of a new power generating unit at the Armenian Nuclear Power Plant and ensuring the proper functioning of the gas pipeline that passes through the territory of Georgia.

## *The main tasks*

### *Nuclear energy*

Re-commissioning the second power generating unit of the Armenian Nuclear Power Plant in 1995 solved the problem of power supply for the population and economy. Since the very first days of re-commissioning the ANPP many European countries, and then also the EU expressed concerns about its safety, as the nuclear reactor of the Metsamor NPP, in fact, is the only one restarted after a full shutdown. In 2007 Euratom initiated official talks with the Ministry of Energy of Armenia on searching mechanisms to shut down the nuclear power plant, but the technical format of the negotiations did not enable resolving the main issue: what will Armenia get in return for closing the plant? Back in 2005 both the president and prime minister of Armenia stated that the only alternative to shutting down the operating reactor was building a new one.

After establishment of the joint Armenian-Russian “Metsamorenergoatom” and Russian president D. Medvedev’s official visit to Armenia in 2010, it became clear that Russia would help Armenia in constructing a new nuclear power plant, but it also turned out that the share of the Russian investments in the \$5 billion project would not exceed 20%. For Yerevan this is a crucial issue, as it is rather hard to find other investors for funding Armenian nuclear project. The difficulties are related to a number of key issues:

1. The financial attractiveness of the nuclear power plant to the investors is under question. Armenia has enough thermal and hydroelectric capacities to cover its electricity needs. So where to sell the electricity produced by a new nuclear power plant with a capacity of 1000MW? With the closed Armenian-Turkish border exporting electricity to Turkey is impossible. Moreover, it is still a question whether Turkey will automatically settle the bilateral relations in the energy sector and begin buying electricity from Armenia, even if the Armenian-Turkish border is opened.
2. In case if Armenia is not able to get natural gas from Russia and Iran, is the Armenian society able to pay for the electricity produced by the new nuclear power plant at a price that will be profitable for the investors? The

electricity produced by the operating Armenian Nuclear Power Plant is quite inexpensive, as the return of investments is not an issue. The plant was built by the USSR and inherited by the Republic of Armenia which did not invest even a penny in the construction of the plant. Hence, by and large Armenia does not seek return of investments and profits from the existing NPP. It should be acknowledged that the price for electricity produced by a new nuclear power plant might be comparable to those of the European nuclear power plants – minimum in the range of 10 Euro cents, which means the end-consumer may have to pay as high as about 60 Armenian drams per 1kWh.

3. After the catastrophe at the Japanese Fukushima plant, the interest of international donor organizations in funding nuclear energy has shrunk. In addition, rather negative psychological attitudes have developed toward nuclear energy, and this restricts even the large investors.

It has to be mentioned that amid such situation attempts of the Republic of Armenia to attract potential investors to the project using economic incentives may not succeed. This is an unfortunate reality which proves that the vision of energy security for the country needs serious reconsideration in the years to come. The need for changes is even more tangible if one recalls an important fact regarding nuclear energy – shutting down the operating nuclear power plant in 2016 has been directly connected with construction of a new nuclear power plant before 2016. Meanwhile, in February 2011, when it became obvious that no new nuclear power plant would be built by 2016, the Minister of Energy and Natural Resources of Armenia A. Movsisyan stated that the operating plant would not be shut down until a new one is built<sup>1</sup>. This is a reasonable and right statement, but the problem is that a new nuclear power plant might take too long to build or it might not be built at all. Under these circumstances it is a great concern as to what direction the works on shutting down the operating Nuclear Power Plant should take.

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<sup>1</sup>Ministry of Energy – The Armenian Nuclear Power Plant will work till the construction of a new power generating unit. [//http://www.atominfo.ru/news4/d0761.htm](http://www.atominfo.ru/news4/d0761.htm).

### ***Armenia-Russia gas pipeline***

In the last two years the privatization of Armenia-Russia gas pipeline's portion passing through the territory of Georgia by the Georgian government has been perhaps one of the most discussed issues in relation to Armenia's energy security. Its significance is mainly associated with the fact that Azerbaijan, represented by the State Oil Company, is interested in buying the pipeline. The chances of Azerbaijan to buy the gas pipeline are quite high, as Baku has serious objective grounds in succeeding to close the deal on acquisition of this important infrastructure:

- Energy sector of Georgia is directly connected to and dependent on Azerbaijan. Baku supplies gas to Georgia, and the Azerbaijani *SOCAR-Georgia Company* controls most of the gas transportation system of Georgia.
- Unfortunately, among the regional energy companies only State Oil Company of Azerbaijan has enough funds for buying the Russia-Armenia gas pipeline. Regrettably, the largest Armenian energy company – *Armrusgazprom*, does not have sufficient resources to compete with the Azerbaijani company.

The last circumstance is to some extent related not so much to the company itself, but to the social situation in Armenia. Despite the fact that the company has been supplying gas to Armenia at a comparatively low price, inside the country *Armrusgazprom* has not been able to sell it at a price that would allow accumulating enough financial resources to make investments abroad. Considering the public's low ability to pay, the company has operated at minimal profit margins, which of course, had a positive effect on the relative economic revival of the country. However today we can see the other side of the socially oriented policy: the largest Armenian energy company does not have enough funds to buy the regional energy infrastructure which is crucial for Armenia.

It has to be mentioned that after the talks with the Prime Minister of Armenia, the Prime Minister of Georgia N. Gilauri stated that the government of

Georgia would never sell the controlling interest in the gas pipeline<sup>1</sup>. The Georgian stance in this issue is most probably based on the fact that the official Yerevan managed to convince Tbilisi in very negative consequences of selling gas pipeline to Azerbaijan for both Armenia and Armenian-Georgian relations.

Nevertheless it should be realized that deepening Georgian-Azerbaijani cooperation may bring serious adjustments to the stance of Tbilisi. At the very least it should be taken into consideration that so far Baku has not resorted to energy blackmail against Georgia. It is not known how the Georgian stance will change when Baku and Tbilisi begin discussing the prices for the Azerbaijani gas. So the issue of selling North-South (Russia-Armenia) gas pipeline to Azerbaijan must never be deemed closed.

Armenia should realize that Baku's possible control of the gas pipeline should not be considered exclusively from the market relations perspective. We should not believe that Azerbaijan would be afraid to breach some international norms by stopping the operation of the gas pipeline and gas transit from Russia to Armenia. Baku may easily do it using even purely economic and technical excuses. The problem is that the gas pipeline is in poor technical condition and needs serious modernization that will have to be implemented by the future investor. And the investor may simply shut down the gas pipeline for a whole year under the pretext of its modernization. One may imagine the ramifications it will have for Armenia.

In summary, it has to be noted that a great work has been done in the last 20 years to ensure energy security of Armenia and it can be assessed as more than successful. At the same time, energy security, just like national and state security, is a live process; it never ends, but rather it lives and develops under the influence of different factors. Thus, the energy security system of Armenia will always be facing new challenges and threats, and our policy of correct and prompt response to them should continue, and the vision of energy security policy should always remain flexible.

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<sup>1</sup> Prime-minister – Georgia will not sell gas pipeline going to Armenia to Azerbaijan. //epress.am (visited on October 10, 2011).