THE PROSPECTS OF THE ARMENIA'S ENERGY INDUSTRY IN THE CONTEXT OF INTEGRATION PROJECTS

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The General and Current Conditions of Armenia's Energy Sector

The energy security has always played a key role in the system of national security of Armenia. The reason for this was the events of 1990s, when Armenian energy sector suffered the most from the collapse of USSR. Following to the conflict in Nagorno-Karabakh the energy supplies through the territory of Azerbaijan (by pipelines and railway) were halted, and since early 1990s the only remaining supply route was the one through Georgia, which had been regularly suffering political crises.

Prompted by the crisis of 1990s, the stability of the energy system has become a priority for the country's policy on protection of the national security, which is reflected in the National Security Strategy of the Republic of Armenia[1]. This document refers to Armenian-Russian relations as one of the factors ensuring the energy independence of Armenia.

Currently the strategic interest of Armenia in energy sector is directed towards creation of new energy infrastructures, since they will

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[1] The Strategy of National Security of the Republic of Armenia has been adopted by the Security Council under the President of the Republic of Armenia on January 26, 2007 and signed by the President of the RA.

ensure the stability of the system after shutting down the Armenian Nuclear Power Plant and increase the electricity export volumes. Among these projects are[1]:

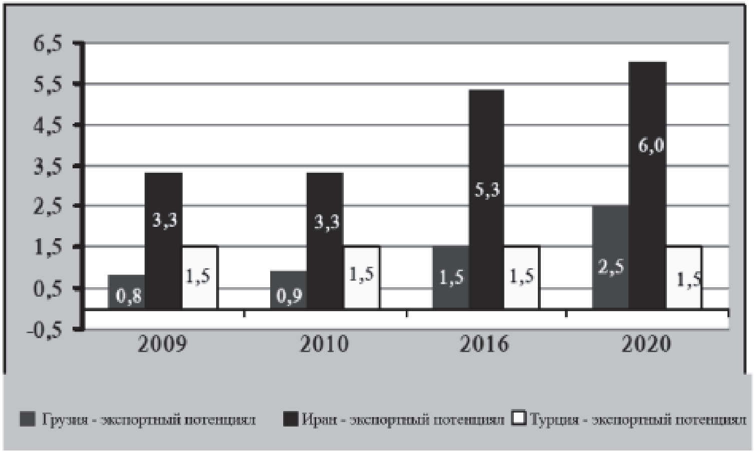
- building a new power-generating unit at the Armenian Nuclear Power Plant with capacity of 1000 MW[2];
- construction of the 5th power-generating unit at Hrazdan Thermal Power Plant with capacity of 440 MW;
- installation of a new gas turbine unit with capacity over 200 MW at Yerevan Thermal Power Plant[3];
- construction of new hydroelectric power plants;
- building wind farms with an overall capacity of over 200 MW.

Construction of the Iran-Armenia gas pipeline capable of providing Armenia with 2.3 billion cubic meters of natural gas annually (covering roughly the entire yearly gas consumption in the country) was a very important achievement for Armenia. Currently the gas pipeline going through the territory of Georgia operates stably and Armenia needs no Iranian gas. The gas supplied by this pipeline is used to produce electricity, which is exported back to Iran. However, in case of a force majeure situation with the Russian gas supply, this pipeline could provide for the stable functioning of the Armenian economy and energy sector.

Meanwhile, the entire logic of Armenian energy industry development consists of the attempts to achieve two main goals: ensure the country's energy security and increase the electricity export capabilities. The main direction of exports in the long term is Iran, rather than post-Soviet countries.

[1] *Karen Karapetyan*, "The Role of Armenia in the Energy Security Ensuring of the South Caucasus Region" // "21st Century" #1, 2009.
[2] Completed in mid-2010.
[3] Completed in 2011.

Potential electricity exports from Armenia with consideration of wheeling capacities of the interconnected transmission lines, in billion kWh



Energy Sector of Armenia in the Framework of the EU Association Agreement: Problems and Prospects

The current situation in the energy sector of Armenia is clear: 20 years of closed borders with Turkey and Azerbaijan have made Russia and Iran the main energy partners of Armenia. A significant number of Armenia's energy infrastructure projects are directly related to Russia and Iran, including:

- Russia-Armenia gas pipeline,
- Iran-Armenia gas pipeline,
- Project of a new nuclear power plant to be implemented through Russian investments.

Since the main power generation infrastructures in Armenia belong to Russian companies, whereas natural gas is piped from Russia and Iran, Moscow and Tehran are the most important and main partners of Armenia in the energy sector. **Given this circumstance, can the EU**

Eastern Partnership program change the reality and redirect development of Armenia's energy sector toward Europe?

Most likely in the current period the answer to this question is not yet negative, especially given that the EU and European companies plan no infrastructure change in the Armenian energy industry.

At the same time, the Association Agreement contains some serious challenges for the energy security of Armenia. These challenges can be divided in three groups:

1. Armenian-Iranian cooperation

Unlike an agreement on establishing a free trade zone, the Association Agreement is a political document. The text of this document has not been published yet, though essentially it is not only about deepening the cooperation, but also establishing a unified policy of foreign trade, *inter alia*, based on political considerations. In this respect the Iran-Europe relations are of great significance for Armenia, especially in terms of the EU sanctions on Iran due to the Iranian nuclear program. As a reminder, the EU has imposed additional sanctions on Iran that are even stricter than those of UN Security Council. And hence the important thing is: will Armenia be obliged to adhere to these sanctions after signing the Association Agreement with the EU? From the economic viewpoint, for Armenia this question mostly concerns the energy industry, since it dominates in Armenia-Iran economic relations. If the answer is yes, then Yerevan will have to at least discard the idea of building a petroleum products pipeline, because the EU sanctions prohibit any cooperation with Tehran in oil industry. If the scope of the sanctions is expanded, they might cover also the whole energy sector, including imports of the Iranian gas, as well as electricity exports to Iran.

In turn, this would bring the Iran-Armenia economic cooperation down to almost zero level and make the Iran-Armenia gas pipeline meaningless from the national security perspective.

However, even if the format of sanctions against Iran remains unchanged, it is clear that the Armenian-Iranian projects will suffer considerably. Currently the most promising energy projects between Armenia and Iran include:

1. Construction of a pipeline to transport petroleum products from Iran to Armenia, which will allow import of up to 0.5 million tons of Iranian gasoline (the project has been discussed since 2009 and almost all of its technical details have been clarified and agreed).
2. Construction of an oil refinery plant in Armenia to process the Iranian oil for subsequent sales in both Armenia and Iran.

With the EU sanctions against Iran's oil industry none of these projects can be implemented, because the Iranian oil may not enter EU in any form, whereas if Armenia joins the European free trade area then such possibility might exist. Hence, it can be stated that Association with the EU would certainly have a negative impact on the Armenian-Iranian cooperation in energy sector.

2. Nuclear Energy

Despite the stable functioning of the Armenian thermal power plants and the Vorotan Hydropower Plant, the nuclear energy still remains the backbone of the Armenian energy sector, producing about 40% of the electric power in Armenia. Since the very first day of the Armenian Nuclear Power Plant[1] recommissioning, many European countries, and subsequently also the EU have expressed concerns about

[1] It provides about 8% of the electric power production in the country.

its safety, as the nuclear reactor of the Medzamor power plant is the only one in the world, which was re-commissioned after a full close-down. During the 6th meeting of the Armenia-EU Cooperation Council, Hugues Mingarelli, Director-General for the European Commission's external relations with Eastern Europe, South Caucasus and Central Asia formulated the maximum assistance that Armenia could expect from Europe: "If the government of Armenia takes steps to shut down the Armenian Nuclear Power Plant as soon as possible, the European Union would hold an international conference of the donor countries to raise the necessary funds for that"[1]. As a matter of fact, this has to do solely with financing the safe shutdown of the plant, without any serious alternatives for creating other power generation facilities.

The European policy on the new power-generating unit is prompted by two facts:

1. Armenia is able to generate the needed quantities of energy after the ANPP shutdown. Since 2011 the fifth power-generating unit of Hrazdan Thermal Power Plant has been operating, with a power generation capacity close to that of the nuclear reactor to be shut down. In addition, a number of other projects that can compensate the shutdown of the Nuclear Power Plant are implemented in Armenia, including the construction of hydropower plants of various sizes, the largest of which with design capacity of 400MW will be constructed by Armenia and Iran on the Araks River.
2. After the Fukushima disaster the EU's stance on nuclear energy became quite negative, despite this industry's development in such countries as France and UK.

[1] See *Деловой экспресс*, Экономический еженедельник Армении // 30 июня - 6 июля 2005 №24 (632). *Гаяне Мовсисян.*

At the same time it has to be noted that absence of EU opposition to Armenian NPP new power generation unit does not mean at all that such unit will be built, because Armenia will have to face two key issues:

1. attracting European investments, which seems an unlikely prospect, given that not a single European company has shown interest in construction of a new power generating unit for the Armenian NPP;
2. sales of electricity generated by the new plant in domestic and foreign markets.

The last circumstance is directly related to the fact that after signing the Association Agreement with the EU Armenia will have to follow the new standards of energy safety stipulated in the "Third Energy Package".

3. The Third Energy Package of the EU and the Future of the Armenian Energy Sector

Meanwhile, there is another significant challenge for the Armenian energy sector. The creation of a common energy market in the framework of the "Third Energy Package" may lead to full liberalization of the energy market in the EU and countries that have signed Association agreements and Free trade area agreements with EU. The "Third Package" involves implementation of a number of actions, among which the following are especially important for Armenia.

First, full division of the sector into separate industries is intended, whereby energy importers have to depart from electricity generation and vice versa. For Armenia that means future transformation of the gas operator ArmRusGazprom, since in addition to importing natural gas to Armenia it also owns the Unit 5 of the Hrazdan TPP, which is the largest one.

Second, the EU member countries are obliged to liberalize their energy sectors, providing free *third party access,* which also concerns the free trade system countries. In actual prospect it means abandoning protectionism of the national electricity generation operator and adopting the "best offer" system. For Armenia this implies a free access for European companies, as well as for companies of those countries that have signed an Association Agreement, including for example, Georgia, where due to development of cheap hydropower industry electricity price drop is observed[1]: Currently the price of 1 kWh for households in Armenia is AMD 38, whereas in Georgia, converted to Armenian drams it constitutes about AMD 25. Naturally, wholesale electricity price is lower, too. Signing Association Agreement with the EU both by Armenia and Georgia would open the Armenian market for Georgian producers of electricity and become the beginning of downfall for Armenian companies that generate electricity from expensive natural gas (the price of which may increase in further once Armenia enters into association with the EU). Such prospect is a direct threat for the Russian companies as well, including for Gazprom that has made considerable investments in the Armenian energy sector, not least in construction of the Hrazdan TPP Unit 5.

Possible Russian response to Armenia joining the EU unified energy space is worth a separate review. This can be manifested both in increase of gas prices and halt of a number energy projects, such as construction of a new NPP, expansion of Abovyan gas storage facilities, cutback of investments for modernizing and re-commissioning the Hrazdan hydropower plants cascade, etc.

[1] Тарифы на электроэнергию в Грузии снизятся для 90% населения – Иванишвили // http://www.newsgeorgia.ru/economy/20121224/215430365.html

Meanwhile, it has to be noted that the issue of methodology for calculating the natural gas prices remains open during the discussions of the Armenia-EU Association agreement prospect. Particularly, the study commissioned by European Commission on Armenia's economic prospective after entering the EU Deep and Comprehensive Free Trade Area[1] indicates the potential economic growth rate, with consideration of the current situation both in Europe and Armenia. However, the important question remains what will happen when prices of goods imported to Armenia from Russia will increase due to Armenia not joining the Customs Union? Obviously, in such areas as electricity generation, agriculture (greenhouse facilities) and production of Portland cement (these three industries are largely dependent on gas prices) the increase of Russian gas tariffs will lead to higher costs for the goods and services, which will affect the whole economy. In turn, this would mean lower competitiveness of Armenia and its national economy.

The Energy Industry of Armenia in the Framework of the Customs Union: Problems and Prospects

The prospects of Armenia's membership in the Customs Union from the energy industry standpoint are directly related to the political prospects stemming from such membership.

Evidently, the "either-or" choice offered by the EU is not a purely economic one, but rather, it also brings a political "message" telling that Armenia has to pick a direction and make a choice. For the Armenian energy industry, joining the Customs Union and abandoning the Association Agreement means to draw into its shell, restrict the opportunities of the Armenian power generation sector's integration with the EU

[1] http://trade.ec.europa.eu/doclib/docs/2013/july/tradoc_151659.pdf

through the Black Sea transmission lines, as well as to give an upper hand to Georgia and EU in deciding the fate of the Russian gas transit through Georgia.

From the technical and economic perspective for Armenia it is more beneficial to stay out of the EU energy policy "Third Package", as well as to continue expanding the technical capacities of electricity export to Iran (including power to be generated by a new Armenian NPP). However, to achieve this goal Armenia first of all needs to build a new NPP to minimize the country's dependence on imported fuels, and second, to make sure that imported hydrocarbon fuels, especially natural gas are affordable, so that the Armenian economy develops under a favorable scheme. Given that Russia is the main supplier of natural gas and the only stakeholder interested in construction of a new NPP, it can be assumed that joining the Customs Union would enable Yerevan to access investments in nuclear energy and to Russian natural gas. However, the regulatory and legal basis of the Customs Union and EurAsEC does not stipulate such things, and thus what remains is only Russia's "good will" and aspiration to keep the Armenian and Russian energy markets tightly connected. This circumstance poses certain risks to Armenia, because "good will" cannot be considered a long-term strategic resource, unless reinforced by regulatory and legal obligations.

As far as the Customs Union and EurAsEC are concerned, no mechanisms exist there, for example, with regards to using internal prices for sale of natural gas by one member to another, although there is an opinion in Armenia that such mechanism does exist. Armenia membership in the Customs Union will not guarantee by itself that Armenia gets the right to buy Russian or Kazakhstani gas at internal prices of Russia or Kazakhstan.

With this in mind, to boost Armenia's motivation of joining the Customs Union new mechanisms have to be developed that would reserve certain privileges in receiving inexpensive energy inputs, justified by the special conditions (absence of common borders, blockade, immediate neighborhood with the European area, etc.). Without such format, Armenia's membership in the Customs Union would not bring many energy security benefits.

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