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PROSPECTS OF ELECTRICITY MARKET LIBERALIZATION IN GEORGIA

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G. Giguashvili, A. Sadagashvili. Prospects of electricity market liberalization in Georgia

In recent years, against the background of global risks, the covid-pandemic, and the unjust war between Russia and Ukraine, energy security problems have emerged. Like the rest of the world, in Georgia, the need to solve the issues related to energy supply, perfecting the relevant legislation, and liberalization of the electricity market is on the agenda.

In accordance with the agreement on the association of Georgia with the European Union, a strategy for the Georgian electricity market's new model creation and implementation was planned. The article discusses the possibilities of liberalization of the energy market of Georgia. Based on the quantitative-statistical analysis of the energy sector, the mechanisms for improving its functioning have been identified.

Keywords: electricity market liberalization, energy exchange.

Г. Гігуашвілі, А. Садагашвілі. Перспективи лібералізації ринку електроенергії в Грузії

В останні роки на тлі глобальних ризиків, пандемії ковіду та несправедливої війни між Росією та Україною виникли проблеми енергетичної безпеки. Як і в усьому світі, в Грузії на порядку денному стоїть питання вирішення питань енергопостачання, вдосконалення відповідного законодавства, лібералізація ринку електроенергії.

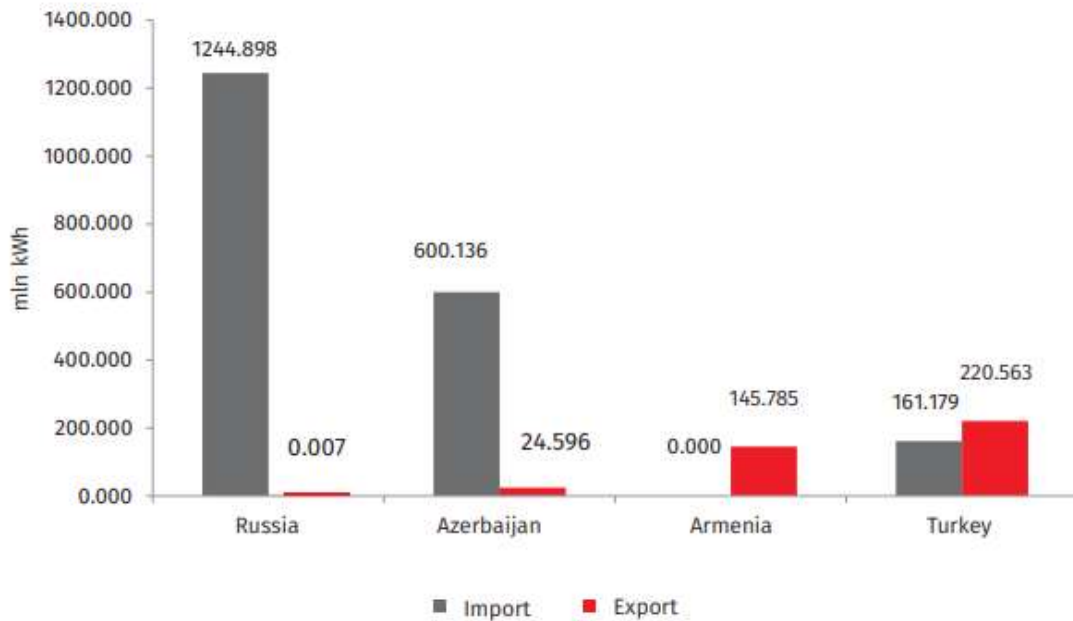
Відповідно до угоди про асоціацію Грузії з Європейським Союзом була запланована стратегія створення та впровадження нової моделі ринку електроенергії Грузії. У статті розглядаються можливості лібералізації енергетичного ринку Грузії. На основі кількісно-статистичного аналізу енергетичного комплексу визначено механізми вдосконалення його функціонування.

Ключові слова: лібералізація ринку електроенергії, енергетична біржа.

Energy consumption in Georgia is increasing every year. From the beginning of the 21st century until now, energy consumption in the country has increased by about 90% [1]. The main part of the electricity demand is met by local generation facilities, hydro, and thermal power plants. Only 20% of the electricity generation potential from the rivers in Georgia has been utilized. In order for Georgia to become independent in terms of electricity throughout the year, the use of rivers is not the only possibility. Although the country has relatively limited reserves of traditional energy sources: coal, oil, and natural gas, it is rich in renewable energy sources such as wind and solar energy [2]. A developing, small-economy Georgia that aspires to join the European Union can become an example and show the rest of the world, based on the use of renewable energies, how to increase energy efficiency and encourage economic development [3]. According to the information of the Ministry of Economy of Georgia, there are currently 202 renewable energy projects in various stages of development, including 153 hydro, 18 wind, and 31 solar power plants [4]. By 2032, it is planned to increase the share of wind and solar power plants to about 10%.

The country's energy system is connected with the energy systems of Russia, Turkey, Azerbaijan, and Armenia. The largest part of the electricity trade volume comes from the first three countries. Imports from the mentioned countries are carried out in winter to meet the increased demand - exports are carried out in summer months due to the abundance of natural water and the excess of generated electricity [5, p.25].

Export-Import by Countries 2021



Source: Georgian State Electrosystem

In 2021, Georgia's consumption increased sharply to 14.26 billion kWh, while the system output accounted for 12.65 billion kWh. To cover the increased consumption, 2.01 billion kWh of electricity was imported, while exports amounted to 0.391 billion kWh. Increased imports and reduced exports were led by growth in system consumption and delays in the commissioning of generation facilities. In 2021, the transit of electricity through the Georgian energy system between neighboring energy systems amounted to 1.184 billion kWh.

Following the forecasts of the Ten Year Network Development Plan of Georgia 2022-2032 the rough estimates show that annual domestic consumption of electricity will increase by about 3% each year (up to about 17.1 billion kWh by 2027, 19.8 billion kWh by 2032), annual generation will rise on average 10% per year (up to about 25.5 billion kWh by 2027 and 33.8 billion kWh by 2032). Accordingly, up to about 8.4 billion kWh per annum will be subject to export by 2027 and 14 billion kWh - by 2032 [5, p.28].

Georgia aims to develop cross-border electricity trade by strengthening transmission infrastructure. The initiative of the Black Sea undersea power cable project, which belongs to Georgia, will physically connect the Georgian power system with the European power system. The European Union strongly supports the Black Sea submarine cable project and participates as an observer [6]. Therefore, the compatibility issue of energy markets with EU legislation is critically significant in terms of the maximum utilization of trade opportunities.

In Georgia, the process of liberalization of the energy market was laid in 2019, after the Georgia Law "On Energy and Water Supply" came into effect [7]. The law establishes the legal framework within which the security of supply policy, obligations of market participants, and procedures for the security protection of supply is determined. On the basis of the law, it was planned to establish new models of energy markets to ensure, first of all, the improvement of the competitive environment instead of one monopolistic supplier, many suppliers will appear on the market, and electricity and natural gas customers will have the option to choose the provider that offers the best price or service.

Georgian law on "Competition" is particularly significant. All of its amendments were elaborated based on the requirements of the Deep and Comprehensive Free Trade Area (DCFTA) and the practice of the European Commission and the European Court of Justice. The law defined the competence of the Georgian National Energy and Water Supply Regulatory Commission (GNERC) to ensure effective competition in the energy market. The commission was granted the authority to

conduct market research and sanction relevant entities in case of violation of competition legislation. At the legislative level, necessary for the enforcement of competition law created the full range of norms, and the issues of separation of competence between the National Competition Agency of Georgia and the relevant regulatory bodies were fundamentally regulated [8].

Energy market liberalization implies the market principles establishment in the energy production segment, transmission, and distribution. As European and international experience shows, the liberalization of the energy market ultimately brings positive results for the establishment of a stable, energy-efficient, ecological, and end-user-oriented energy sector [9].

According to the researchers, the energy market liberalization process will lead to the role limitation of the "Georgian Energy and Water Supply Regulatory National Commission" (GNERC) in the electricity price policy. According to the new model, the dynamics of electricity prices will be greatly determined by the market, which, in part, exposes consumers to the risk of unstable and high tariffs. However, the law envisages the regulation of the electricity market in order to prevent the formation of an unavoidable natural monopoly [9].

On April 16, 2020, the government of Georgia approved the concept of a new electricity market model. It envisions a market that will be sustainable and thus ensure the security of supply and quality of service in the long run. Along with the organized electricity markets establishment, the concept of the market aims to promote the regional integration of Georgia with its neighboring countries; Create and ensure the liberalization of the electricity market. The market concept envisages the formation of such an environment, which ensures the fairness and non-discrimination of the market as well as reduces the risks associated with trade. It establishes the principles of social protection of vulnerable consumers, ensures access maintenance to electricity, and fights against energy poverty [10].

In order to perfect the implementation of the legislative framework and regulatory norms of competition in the energy and water supply sectors, on May 21, 2020, the Parliament of Georgia adopted the Law on Energy Efficiency [11], which defined the general legal bases of measures necessary for the promotion and implementation of energy efficiency in the country; Opportunities for the development of the energy services market, in particular, the provision of energy efficiency as a result of technological, behavioral and economic changes.

In order to regulate competition in the energy sector, GNERC approved the "Energy Market Monitoring and Reporting Rules"[12] in 2021, which is a kind of unified document with a market definition and market analysis methodology, market research, cooperation program, a set of norms related to the submission and review of the notification on concentration. The retail market has been open in Georgia since July 1, 2021. From October 2021, days before and on the balance and support services markets, joint test trading is being conducted in a scenario as close as possible to real trading. On the one hand, users should have the opportunity to get electricity from the competitive market at a better price and service conditions, and on the other hand, promote the entry of more investors into the electricity market, which is, of course, necessary for the sustainability, development, and energy stability of the industry. The energy market liberalization process envisages the purchase of electricity from free suppliers in the wholesale electricity market.

From January 1, 2022, trading is taking place on the energy exchange, and electricity is supplied to the population at the contractual price. Suppliers are obliged to publish in advance the standard terms of the contract, which will be approved by the commission. The customer, on the other hand, has the right and freedom of choice to choose the supplier himself and conclude a contract with conditions and prices acceptable to him.

The market price on the exchange is determined by the demand for electricity and its supply [13]. In turn, demand and supply are determined by participants who place electricity purchase and sale applications in the market. Participants may have the motivation and ability to influence the market price by changing offers to buy or sell electricity, spreading wrong signals, etc., which is a significant risk. That is why it is necessary to control these processes.

The Georgian Energy Exchange is a place of electricity trading not only for the purpose of supplying the Georgian market but also represents the regional hub used by coupled market

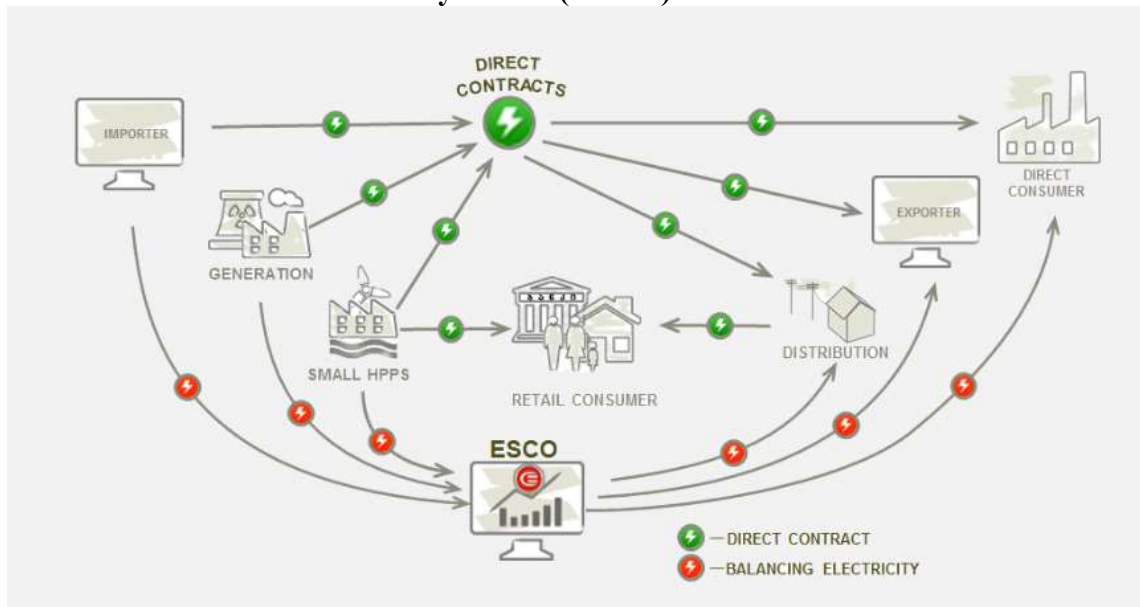
participants for cross-border trading purposes. Its mission is to ensure transparent and competitive markets and to provide accurate price signals to existing and potential market participants through efficient operation of the electricity markets [13].

The shareholders of GENEX are Georgian State Electrosystem (GSE) -50% and Electricity System Commercial Operator (ESCO) -50%.

Georgian State Electrosystem (GSE) is an electricity transmission system operator. Our company owns and operates 3,550 km of transmission lines and 93 substations all over the country. The transmission network is managed by the National Dispatch Center and its technical maintenance is provided by the three regional networks (East, West, and Kakheti). GSE also manages the cross-border transmission lines interconnecting with the neighboring countries: Russia, Turkey, Armenia, and Azerbaijan. GSE is the operator of the Balancing and Ancillary Services Market. As a market operator, the GSE, among other responsibilities, operates the market, establishes balancing products, calculates the price of imbalances, sets the price of the corresponding collateral, and ensures the promotion of a fair and transparent environment for settlement purposes.

Electricity Market Commercial Operator is the Wholesale Public Service Organization. The main purpose to provide public services by ESCO is to support the producers of renewable energy and Power Purchase Agreements and to promote their integration into the organized market, supporting the Universal Service Suppliers by providing a stable electricity price and facilitating their integration into the organized market, security of supply for the consumers in the occupied territory of Georgia (Autonomous Republic of Abkhazia) by purchasing electricity on the organized market [14].

Model of Wholesale Electricity Trade (ESCO)

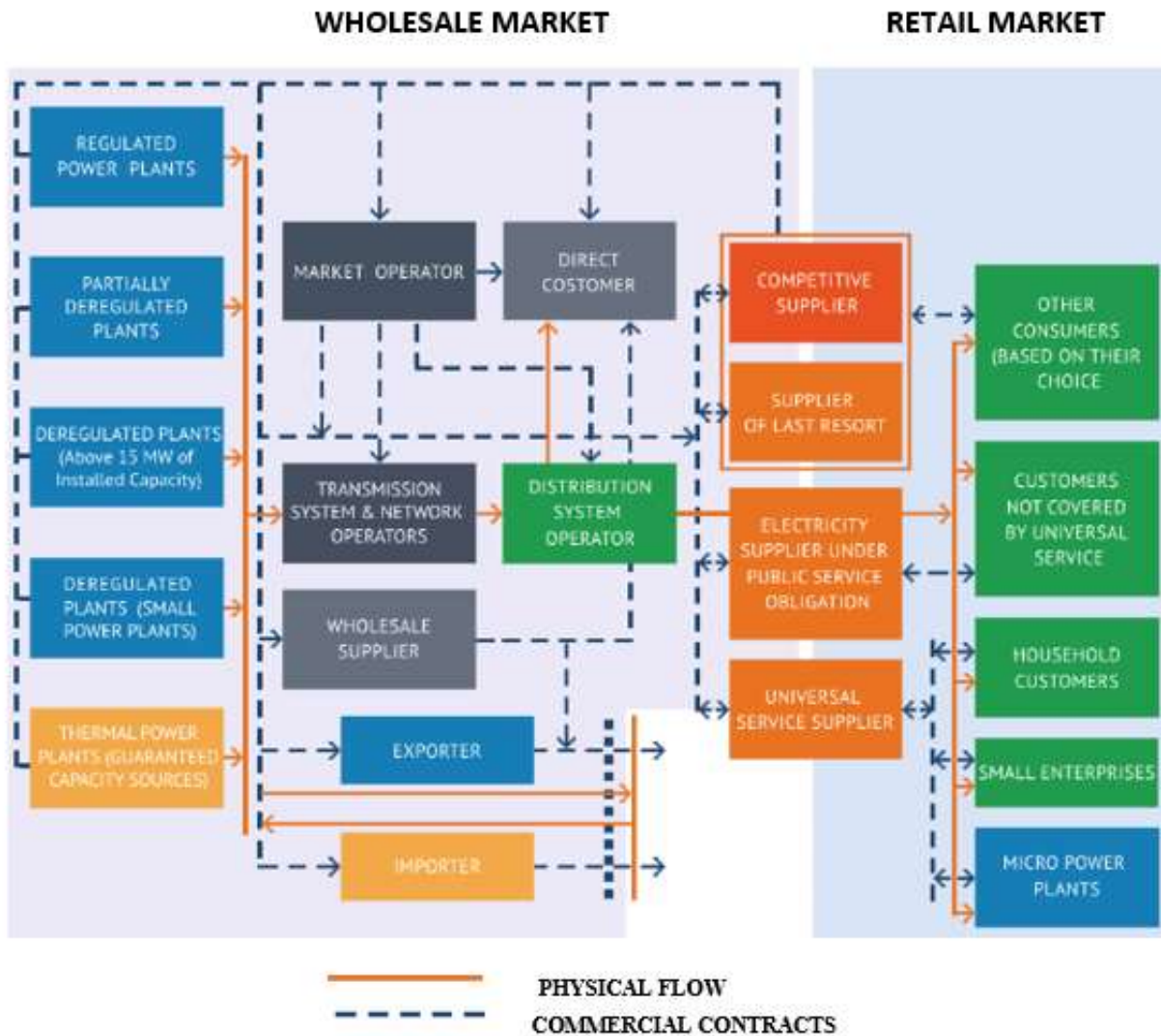


Source: <https://esco.ge/>

In accordance with the rules of the electricity market, in order to ensure the electric energy system stability, only the operator of the electric energy market has the right to conclude import and export agreements.

It is noteworthy that the transition to the electricity market's new model was approved by the Government of Georgia, and, accordingly, the market launch date postponement until March 31, 2023, made it possible to extend the operation of the new market model in the test mode. Individual risks were identified, appropriate responses were made, and challenges that could occur in the real market were avoided. The electric energy market corresponding to the European model [15] creates new opportunities, increases the involvement of market participants in the trading process, and, accordingly, increases the degree of efficiency.

Structure of the Georgian Electro Energy Market



Source: GNERC

The participants of the wholesale electricity market are obliged to observe the principles of integrity and transparency of the wholesale electricity markets, as well as of competition, which are stipulated by the legislation, including the energy market monitoring and reporting rules approved by the National Energy and Water Supply Regulatory Commission of Georgia [12].

Conclusion. The liberalization process of the electricity market for the energy sector of Georgia is a stage of fundamental changes, which is associated with significant challenges. In the short term, depending on the number of market participants and concluded contracts, the number of e-mails increases. Risk of energy supply instability, although during the transition period, this expected imbalance can be balanced by electricity imports. As international experience shows, in the case of the right energy policy implementation, the liberalization of the electricity market will have a positive effect on the efficient operation of the energy sector. Liberalization of the Energy market, as one of the components of Georgia's European choice, will make the local energy system more transparent, liberal, diversified, stable, and ecologically oriented. It is especially significant to attract private investments in the energy sector to have a stable macroeconomic environment. In order to achieve the goal, a complex approach to the energy sector liberalization process is necessary for the successful operation of the market. The participants' abilities development and the necessary trade skills improvement are essential;

Intensive work is needed to attract both local and international private investments in the energy sector.

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