

Energy Market Liberalization Opportunities for Consumers

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Abstract:- Energy market liberalization envisages opening of the electricity market for free competition. In a competitive environment consumers have more control over what they consume and what they pay for. Initially, it is planned to open the day ahead market in Georgia for the current year, therefore the aim of the research is to assess and determine the possibilities of liberalization of the energy market in Georgia among consumers.

The study of people's awareness of the existing topic is an important stage, consequently, in the part of quantitative research, a research selected for the public is presented, where it is possible to evaluate the results by percentage. According to the research, the majority of consumers have a rather low level of knowledge about the current issue, despite the fact that it should be in everyone's interest to know more about the possibilities and specifics of the market. Therefore, it is important to plan certain campaigns and measures for delivering information correctly.

The paper also includes the results of qualitative research, during which interviews were conducted with representatives of the Georgian Energy Exchange, Energo-Pro Georgia JSC, Telmiko and GNERC.

A market structure close to the European model will create a desirable, stable and predictable environment for investors, hence possibility for market participants to grow and develop. It is possible to increase the awareness of the public by a large percentage after the launch of real trading, to identify new challenges and to change the satisfaction and evaluation of the current market among business representatives.

Keywords:- Electricity Market Liberalization, Deregulation Strategy, Energy Privatization, Georgian Energy Exchange, Competition.

I. INTRODUCTION

Achieving any strategic goal set in the field of energy is an important precondition for economic development. It can be said that electricity is one of the main products in the daily needs of consumers, it is the basis of cost efficiency of the economy and household well-being.

The energy market consists of a large group of interconnected companies, their priority for the country is the energy growth and its use, including energy generation, distribution and consumption. The aim of the energy policy of Georgia is to improve the energy security of the country. There are renewable (hydropower, solar energy, wind energy, etc.) and non-renewable (oil products, gasoline, natural gas, etc.) energies.

Liberalization in the electricity sector refers to the distribution of state-owned electricity. From an economic and regulatory perspective, the primary goal of the liberalization reform in the electricity sector is to intensify competition in generation and retail trade, in order to make effective use of available resources in the short term and effective extension in the long term.

In order to establish a competitive market, the state has developed a deregulation strategy, which defines the conditions for sparing generation and supply activities from the tariff regime, so that all interested parties can trade electricity day-ahead and hourly at real market prices. For the purpose of promoting liberalization and free choice, a choice of electricity supply companies operating in a competitive environment is emerging in the market.

The relevance and importance of the work is quite high, because from September of this year, Georgian Energy Exchange plans to fulfil its duty and functions and to move to real trading from the test mode trading.

The paper aims to assess and determine the possibilities of energy market liberalization in Georgia among consumers.

II. RESULTS AND ANALYSIS

➤ Energy market before and after deregulation

In order to understand the liberalization process in detail, it is necessary to consider how the energy market works before and after liberalization. The energy market is quite different from other industrial sectors because electricity is a product that cannot be stored, its value depends mostly on the way it is generated and, importantly, its demand is inflexible due to the absence of its substitutes. Consequently, in many countries the energy sector is organized as a state monopoly, and the liberalization process can often turn out to be problematic.

The state-owned energy market is vertically integrated, meaning that one participant is involved in the entire supply process up to retail. This can be seen more clearly in the

Figure 1, where the generation, transportation, distribution and supply stages up to the consumer are carried out with the involvement of only one participant.



Fig 1. Vertically integrated energy market (Delia Vasilica, Rotaru, 2013, 101).

The process of liberalization is long-term and includes various steps. After that, parts of the supply chain are open to new market participants and thus to competition, as

demonstrated in the Figure2, where the next stage of production is the wholesale market, where electricity is traded under competitive conditions.

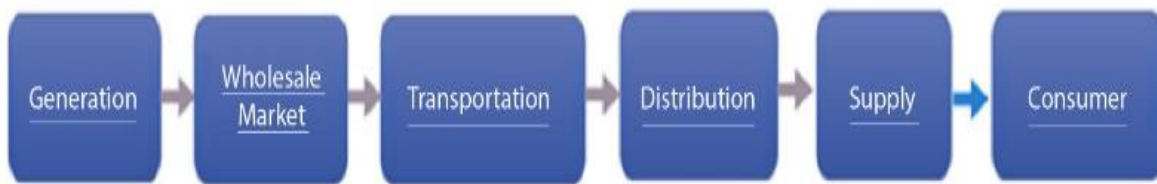


Fig 2. Supply chain after market liberalization (Delia Vasilica, Rotaru, 2013, 102).

Liberalization creates competition in the process of purchasing and selling electricity and gives an advantage to the costumers, who can freely choose their supplier. Therefore, it is an opportunity for free choice and it creates more opportunities for both the customer and the supplier.

➤ *Effect of liberalization on the competition*

Deregulation has a quite close connection and influence with competition. Electricity liberalization creates opportunities for more suppliers to develop in the industry.

Current policies and regulations in the energy sector control the entry of new companies into the market, however, deregulation creates space for all stakeholders, and therefore for other new companies. Thus, companies can operate in the market and develop their own strategies.

Deregulation leads to the rise of Independent Power Producers (IPPs), whose purpose is to improve electricity generation and affordable connectivity. (Pablo David Necochea-Porras, Asunción López, Juan Carlos Salazar-Elena, 2021, 17)

Increasing the productivity of companies is a very important issue, it is possible exactly when companies improve their activities, which is the only reason at the time of competition, and competition among suppliers creates an incentive to provide innovative and modern technologies, therefore the sector will develop at a fairly fast pace.

Electricity reform is expected to increase efficiency for the electricity supply industry. However, the most significant

impact of the reform is only expected to appear in the long term, at best in investment decisions. At present, competition has only just begun in most countries, so it is still too early to assess the effectiveness of new electricity markets in terms of costs, prices and global social benefits. In the short term, the reforms have generally delivered the expected benefits. Large increases in productivity have been reported in some countries. However, as a result of lower costs, electricity prices have also dropped in many countries that did not make reform until recently, it is making it difficult to identify the real quantitative impact of competition on prices. (International Energy Agency, 2001, 11)

One of the main objectives of a competitive enterprise in the electricity market is profit maximization, therefore, there is an incentive for existing companies to develop unique, customized strategies to ensure their own market survival and to maintain their positions, while encouraging other suppliers to enter the market and compete. For new companies, the desire to maximize profits creates an opportunity to become one of the main links in the development of the market.

➤ *Electricity market of Georgia*

As it is known, electricity trading at the wholesale market is mainly carried out through direct contracts. In the Figure 3, the generator is divided into certain categories where electricity is supplied by the transmission system operator to distribution licensees and direct consumers. As for retail consumers, they are represented at the market as household and non-household consumers

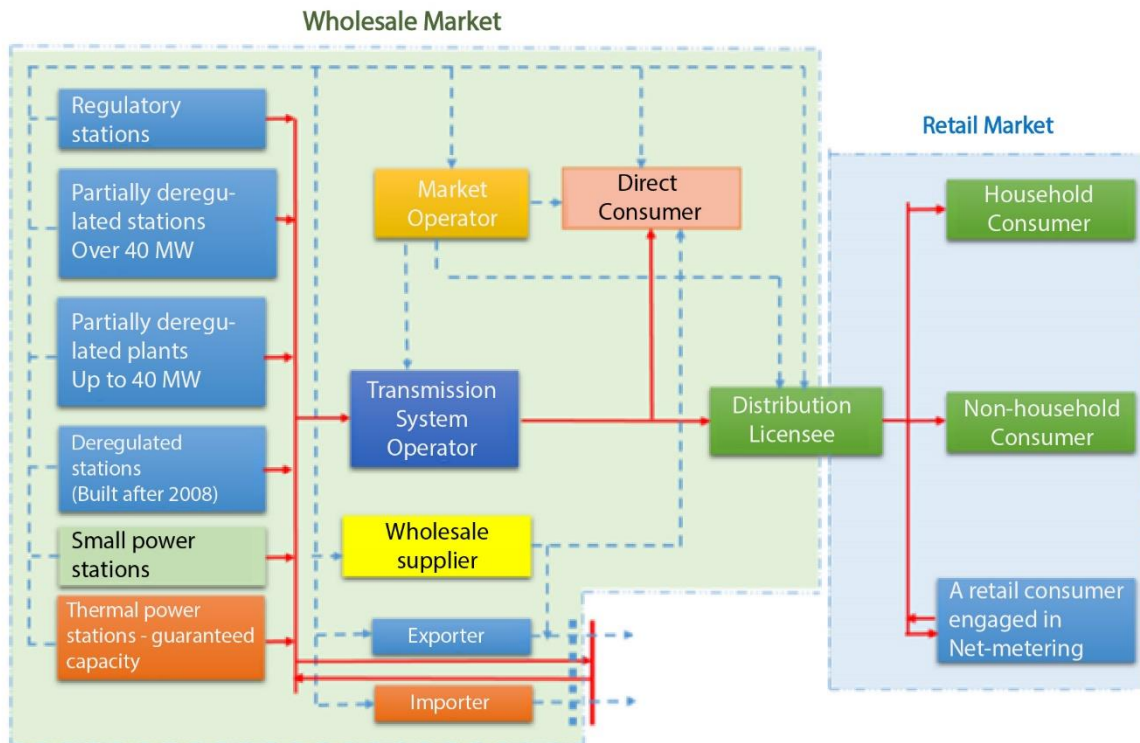


Fig 3. The current structure of the electricity market (GNERC, Georgian National Energy and Water Supply Regulatory Commission, 2021, 27)

According to the Resolution of the Government of Georgia N246 of April 16, 2020 on the concept of the electricity market model, as a result of liberalization Georgia should become attractive for investors, free, competitive, equality of participants, transparent establishment of the market price and non-discriminatory conditions should be protected. (Legislative Herald of Georgia, 2020, 1)

According to the new model, the wholesale market segments are: day-ahead, daily, bilateral contracts and balancing and support services market, and wholesale market entities: electricity market, transmission system and distribution system operator, as well as electricity producer, supplier, trader, large consumer and wholesale public Service providing organization. (Legislative Herald of Georgia)

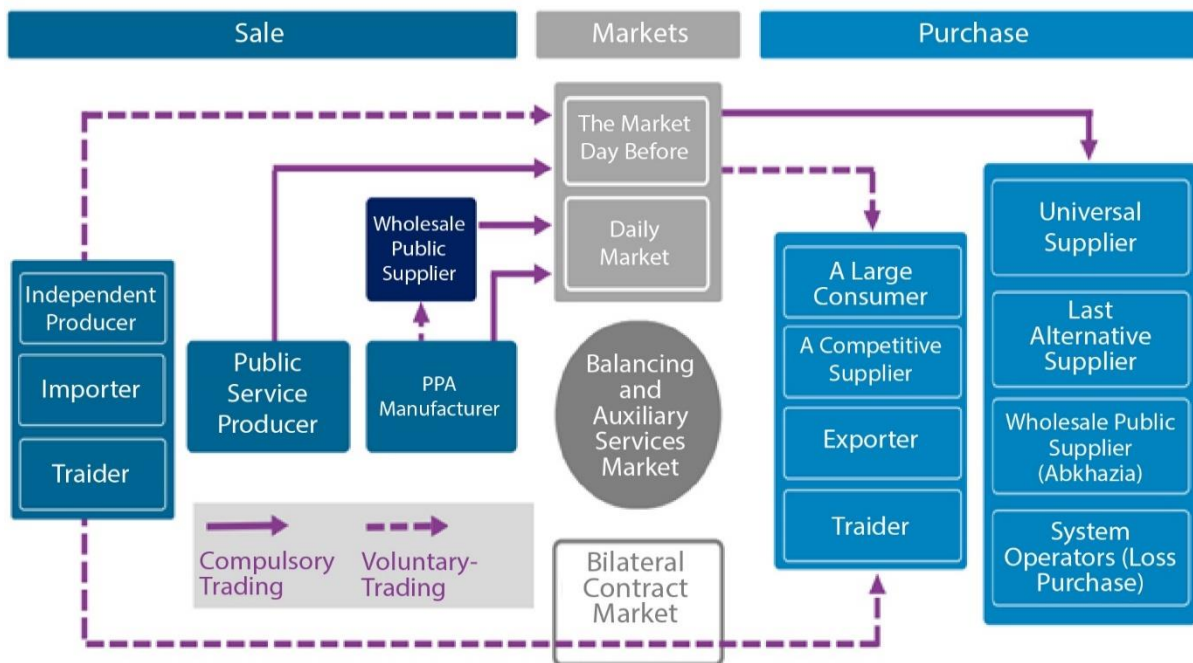


Fig 4 - Wholesale market model Georgian Energy Exchange 2022, 8)

As described in the Figure 4, the public service provider and PPA (Power Purchase Agreement) generator have the obligation to trade in the day-ahead and daily markets, and the free generator, importers and traders have the voluntary opportunity to participate in the trade, day-ahead, in the daily and bilateral market.

All participants of the wholesale market are financially responsible for the imbalance caused by it. Imbalance according to the Law on Approval of Electricity Market Rules is defined as the amount of electricity that appears when the amount of electricity sold or purchased differs from the amount consumed or generated. (Legislative Herald of Georgia, 2020, 1)



Fig 5. Imbalance according to the electricity markets (Georgian Energy Exchange, 2022, 42)

Figure 5 actually indicates a decline in imbalances across markets, particularly in the bilateral contract market, i.e. through direct contacts, where imbalances are highest, including both long-term OTC contracts and physical and financial contracts. The imbalance is relatively reduced in the day-ahead market when the application is completed no later than 12:00 CET on the day before physical delivery and there is an opportunity to trade and balance. The daily market is the closest trading point to physical delivery, as it is possible to place an order 1 hour before delivery, so the imbalance here is the least and, of course, it has the ability to balance. In real-time imbalance control the balancing and support services market are involved, whose activities include system balancing and imbalance settlement.

➤ *Restructuring of the Bulgarian electricity market*

As it is known, the experience of Europe and Bulgaria in particular had a significant impact on the process of market liberalization in Georgia, their strategy originates from 2002 and it outlines the energy policy of the country and the main reforms envisaged for the sector, the main priority of which is the establishment of a competitive energy market. The main guiding principles of Bulgaria's strategy include security of supply, a competitive energy sector for a competitive economy and environmental protection.

The process of liberalization of the electricity market in Bulgaria has been going gradually since 2004 and continues today. As is known, the market consists of two parts, namely regulated prices and open, free market.

Energy sector of Bulgaria is diverse and well-developed, including universal access to the network and numerous cross-border connections to neighbouring countries. Clean, efficient and secure energy is crucial for Bulgaria's productivity, competitiveness and growth. The Bulgarian electricity market is undergoing significant changes, including the introduction of new rules for renewable energy generators, the abolition of the electricity export tariff and market connection projects, which will also have an impact on the independent Bulgarian Energy Exchange in the future.

➤ *Advantages and disadvantages of energy market liberalization*

The unequivocal results of the energy market liberalization are quite controversial, its expected positive effect is that the process should bring a transparent market, where the involvement of the state and monopoly are limited, where private entities are encouraged, and with their greater participation and involvement a competitive market will be formed. An important advantage for consumers is the ability to choose the desired supplier.

The disadvantage of the energy market is that the liberalization may not necessarily bring the expected price reduction, and on the contrary, it may lead to an increase in prices at the beginning of the process, which will consequently reduce employment in the energy sector. The high level of efficiency achieved as a result of technological improvement also leads to a decrease in employment, this can be considered as a negative effect of deregulation for

society (Dizdarević, Host and Galović, 2010,10). The process of privatization involves significant costs, which may even exceed the benefits, however, the main disadvantage remains the price, which is characterized by an increasing trend in the first years of deregulation.

➤ *Interviews with the specialists of the field*

The representative of the Georgian Energy Exchange, Guga Kupradze, says that the correct price signals will be provided to the existing and potential consumers of the market and competitive and transparent trading processes will be organized. What is also important, he notes that a market structure close to the European model will create a desirable, stable and predictable environment for investors. Accordingly, a means of growth and development of market participants will be created.

Sofio Khozrevanidze, the deputy director of the GNERCs Market Monitoring Department, notes that, on the one hand, market liberalization will give consumers the opportunity to get electricity from the competitive market at a better price and service conditions, and on the other hand, it will contribute to the entry of more investors into the electricity market, the entry of new market participants. , which she considers as an important precondition for the sustainability, development and energy stability of the industry.

Regarding the change in price expectations, according to Sofio Khozrevanidze, as a result of market liberalization, new participants will appear at the energy market, which means additional investment and employment opportunities for the country, which she considers to be a precondition for the energy development. She also underlines a medium-term perspective, during which, in her opinion, competition will increase along with service improvements, which will definitely bring stabilization of prices.

According to Irakli Kokhodze, head of Reports and the Tariff Division of Energo-Pro Georgia Holding, the development of the energy sector in the short term after the market liberalization is doubtful, it poses more challenges to the market players. However, he notes that in the medium term, market liberalization and, accordingly, fair conditions of market relations will help to attract additional investments in this field.

He notes that, unfortunately, we have to admit that the energy system and most of the market participants turned out not to be ready to deal with the challenges that accompany the process of market liberalization. According to him, there are problems in terms of metering and, accordingly, settlement with the balancing market.

According to Alexander Tskhomaria, the leading expert of the Energy Trading of Telmiko company, as a result of market liberalization, a high-voltage transmission line will be constructed that will connect the Georgian electricity market with the European market, which will increase the interest of foreign investors in the Georgian energy market.

While talking with the respondent, we also touched upon the issue of price policy change, the representative of Telmiko noted that prices at the wholesale market are characterized by high changeability, which is related to the seasonality of consumption and supply. According to him, unfortunately, consumption in Georgia is growing faster and is characterized by a growing pace than production, and considering that the price of energy trains has increased sharply at the world energy markets, price increases are expected at the wholesale market of Georgia in the long term.

III. CONCLUSION

Finally, as a conclusion, it can be said that the process of market liberalization is quite a large and time-consuming process, in which quite a number of interested parties are involved. Therefore, it is important to go through and perform all the stages correctly and precisely, for this the example of countries that have already been tested and successfully launched or developed is of vital importance, consequently it is important that the foreign side to be paid great attention in the process of Georgian market liberalization.

As for the competition, I believe that the implementation of providing a competitive environment sounds quite realistic. Along with raising awareness, many new participants will appear at the market, which will try to settle and maintain their positions, and for existing companies, this will become an incentive for technological development and refinement of services, which again points to the development of processes and operations. In order to maintain the competitive environment, so that the existing and/or large companies not to oppress small and/or new companies at the market, it is necessary to form, develop and properly organize the market.

In the process of price regulation at the competitive market, it is difficult to predict what effect the liberalization of the electricity market will have in the beginning, however, I think that initially, in the light of low public awareness, it is possible that in the short term, prices will be characterized by increasing tendency, however, after the release from the tariff system and the launch of real trade, the increase in people's awareness will increase the number of consumers at the market, respectively in a competitive environment, a competitive price will be established, which will be determined as the result of fair trading on the stock exchange. If a high level of efficiency is achieved, it can lead to lower costs and therefore lower prices.

As is known, a free market structure, where equality is protected, increases potential of the country in the international arena, the stable environmental conditions become more attractive for investors and this will lead to the involvement of the local population, creation of new jobs and the growth of employees.

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