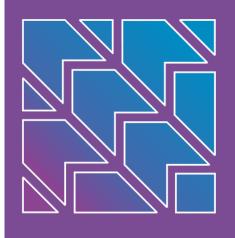
## GEORGIAN ENERGY EXCHANGE





Creating New Opportunities!

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### PREPARATION FOR LAUNCHING THE DAY-AHEAD MARKET

6 months report for the year 2021.

The report represents an overview of the activities carried out by the Georgian Energy Exchange from January 1st, 2021, to July 1st, 2021.

The report aims to share information about GENEX's current progress with any interested parties.

# ADDRESS BY DIRECTOR - GENERAL



Dear reader.

Once again, I am honored to welcome you and represent the report on the progress achieved by GENEX from January 1st to July 1st, 2021. In the previous report, you had the opportunity to read about GENEX's activities for the past year.

I would like to highlight with pleasure that within the framework of this difficult and complex reform, the team of GENEX was able to accomplish the assigned tasks. Despite the fact that the transition to the new market model was postponed for 6 months, based on the latest changes of May 31st, 2021 in Market Model Concept Design, our team did its best to fulfill all the obligations imposed on us by the concept and the legal acts of the regulatory commission.

Unlike the previous year, the last 6 months were primarily distinguished by the fact that together with the Balancing and Ancillary Services Market Operator, we started joint testing of all segments of the organized market. All the results that have been independently achieved by the entities involved in market reform were combined in the first quarter of this year and offered to market participants in the form of joint testing. The process itself was very interesting – market participants had the opportunity to see the new market model's full trading cycle, opportunities, and challenges. At the same time, joint dry-run enabled market operators to identify and eliminate technical shortcomings in a timely manner. As a result, the two trading platforms of the organized market are interconnected and the exchange of information takes place smoothly.

In addition, we have also started certification of market participants aiming the insurance of their sufficient involvement in the trading. As a result of a properly planned and implemented certification process, there are already 70 qualified traders, which is a sufficient precondition for the uninterrupted operation of the market.

This report fully reflects both - the activities for the past 6 months, as well as represents the activities planned to be implemented over the next 6 months, with the focus on developing and strengthening the capabilities of market participants - the joint testing process will continue, additional training and qualification tests will be executed, hoping that even more stakeholders will be involved in this process. Also, in the remaining time, we will try to maximize the existing legal framework by reflecting in the market rules the findings of joint runs and the answers to the challenges identified in the testing process.

Thank you again for your interest!



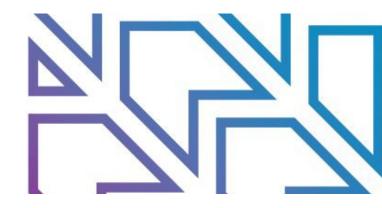
#### REGULATION OF THE EXCHANGE OPERATOR

"Electricity Day-ahead and Intraday Market Rules" is one of the main regulative and guiding documents for the Georgian Energy Exchange as GENEX is a licensed operator of Dayahead and Intraday markets. Based on the experience gained from the dry-run results starting from July 1st, 2020, and as a result of continuous communication with potential market participants and international practice, the exchange operator submitted to the Commission a draft amendment to the market rules, which clarifies mostly the registration process and other procedural issues.

The draft amendments to the market rules were approved by the Commission's decree #18 of June 24th, 2021.

Considering Decree #58 of November 12th, 2020 of Georgian National Energy and Water Supply Regulatory Commission on "Transitory Measures to be Implemented in the Energy Sector" and based on consultations with stakeholders, GENEX developed and submitted to the Commission for approval the following documents:

- Application form for registration on Day-ahead and Intraday markets (approved by the Commission #26/1 decision of June 10th, 2021);
- Technical limits of electricity price, quantity, and number of applications on the Day-ahead market (agreed by the Commission #26/4 decision of June 10th, 2021);
- Standard terms of the liquidity provider agreement and selection procedure (not approved by the Commission at this stage).





Internal regulations of the exchange operator, as well as instructions for the participants, are crucial for the smooth and efficient operation of the market. For that purpose, the following documents were prepared:

- User Guide for the Trading Platform The instruction, including video guide, for exchange participants is provided in Georgian and English language and is published on the GENEX webpage;
- User Guide for Financial Clearing and Settlement Prepared in Georgian and published in GENEX webpage. English version is coming soon;
- Trading Platforms Guide for GENEX Operators;
- Internal Process Automation Concept The concept envisages the development of a central data hub to allow automation of accounting for trading operations, bank transactions using different applications. At the same time, the data hub will be the source of information for market surveillance, data publication/reporting. Now the development process is in progress;
- The Concept for Insider Information Publication Platform Energy Market Monitoring Rules obliged GENEX to
  offer market participants the possibility to publish their insider information. The concept and technical documentation for
  the platforms is ready and the development process in progress;
- Information Security Concept GENEX hosts commercially sensitive information, as well as personal information. Nowadays, when cybersecurity is one of the challenging issues, it is very important to protect the information and as it is crucial for the efficient functioning of the market. Policy development and implementation expected to be finalized before DAM launching;
- Market Surveillance Policy Analyzing the behavior of market participants is a component of market operation and it
  aims to identify market manipulation and attempts to manipulate the market. This component is particularly important for
  the exchange as it provides reference price for another segment of the electricity market as well as for the electricity
  derivatives market. Market Surveillance Policy identifies the main risks and sets procedures to be considered during the
  market surveillance process;
- GENEX Portal Concept Besides processes directly related to trading, it is important to have an internal portal for the optimization of company management. GENEX portal is a space where all information related to related and used for company management are stored. The portal helps to plan, execute and control processes like budgeting, HR management, transportation service, procurement and etc.

It should be noted that process optimization is a precondition for more efficient operation and it is not related to market operation capability.



GENEX ensured the involvement of any interested party in the Dayahead market simulation. Virtually every day, participants were sent updates related to the reforming process, including information on market launching and other important facts and figures. They are given the opportunity to participate in meetings, training, and courses organized for potential market participants by the exchange operator or other entities.

From April 2021, the Day-ahead and Intraday Markets Operator, together with the Balancing and Ancillary Services Market Operator, started conducting joint Dry-run, which means simultaneous and consistent trading in all market segments, submission of nominations and taking the metering data. The purpose of the simulation is to check the interrelations between the Balancing Market and metering system, the accuracy of exchanged information, the technical capabilities of calculating and reflecting the imbalances, as well as the practical training of registered market participants. A prerequisite for participation in the joint simulation is to becoming member of the Balancing Group through the Balancing and Ancillary Services Market.

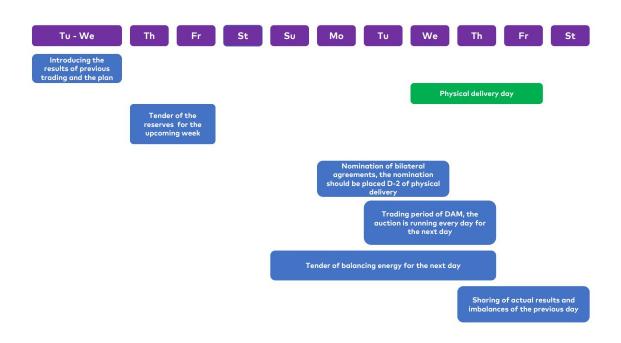
#### DRY-RUN RESULTS

About 140 companies and over 200 representatives are registered with Nord Pool's Day-ahead market simulation platform. Each of them has the opportunity to develop a commercial trading strategy, place orders on the trading platform, as well as test the operation of the Financial Clearing and Settlement Platform.

As early as 2020, the Exchange Operator was organizing Day-ahead organized simulative trades independently from other market operators, where each registered participant was placing the orders on the platform within a pre-defined role and task, aiming to better analyze commercial strategies, monitoring, or other trade-related issues. The separate meetings with market participants in individual or group formats were dedicated for discussing the results of simulative trading.



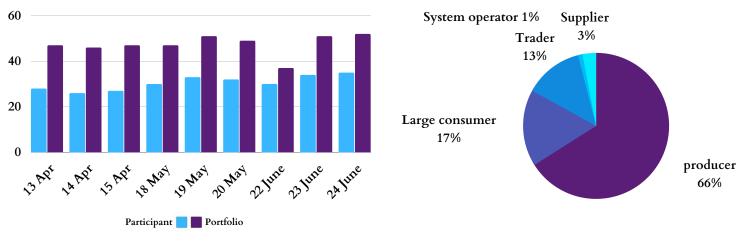
As of July 1st, 2021, a total of 3 joint run sessions were held, where more than 40 participants registered in the Balancing Market participated. Each simulation consists of a physical delivery day, its typical process is given in Graph # 1.



Graph. #1

All categories of market participants participate in the joint simulation: producers, suppliers, large consumers, system operators, traders. As of June 30, 2021, 77 portfolios of 56 participants were registered in the Day-ahead market joint simulation. Graph. #3 shows the distribution of portfolios registered in the Day-ahead market for the purpose of simulation.

Graph. # 2 shows the number of companies and their portfolios that participated in the Day-ahead market under the current joint test regime. The number of market participants increases in each subsequent trade, which is mainly due to the entry of new participants in the balancing market, most of them also request access to the Day-ahead Market.



Graph. #2 Graph. #3



After each dry-run session, an analysis of the trade results is made firstly within the framework of the GENEX and BM joint working group, and then - with the market participants. GENEX informs participants about the results of the test trades as well as the reasons that impacted the formation of the market price. In addition to general dry-run assessments, GENEX suggests a detailed review of questionable/defective orders without identifying a specific participant.

It's worth mentioning that along with the market operators, the meetings are attended by representatives of the Georgian National Energy and Water Supply Regulatory Commission. Representatives of GNERC inform participants about the practices adopted in the area of market monitoring and assess the behavior of participants in the dry- run. This format gives participants the opportunity to ask questions and discuss market monitoring-related issues with the Commission, which is especially important in terms that a new model of market monitoring is newly introduced in Georgia.

During the dry-run, the progress of the participants was evident at each subsequent stage. At the initial stage, GENEX Trading Operations Officers more often assisted participants in the submission of the orders, mostly participant's bids did not reflect the real interest. In the first quarter of this year, these shortcomings were almost completely eliminated – participants can easily place orders on the platform, and almost all the bids fully reflect the real interest. While participants can successfully place orders of their choice on the platform, the development of economically viable trading strategies beyond the application still remains challenging.

While talking about a dry-run that almost completely covers the entire demand and where all the participants enter the Dayahead market with their realistic forecasts for the next delivery day, there is an expectation that the price set in the test mode can be the reference of the expected real price in the future. Considering the motivation and behavior (without the real financial results, part of the participants does not disclose its real trading strategy, etc.) of participants in the test mode, the price set during the test trades cannot be used as an indicator of the real market price, as the actual result may differ significantly based on the participant's changes behaviors.

#### READINESS OF MARKET PARTICIPANTS

According to Article 13 of the Day-ahead and Intraday Electricity Market Rules, the trading representative of a market participant on the exchange must have successfully passed the exam organized by the exchange operator. GENEX, as the operator, is responsible for organizing the Energy Exchange Trading Examination at intervals determined by the Commission.

GENEX Certification Unit recognizes the importance of impartiality in the certification process, manages conflicts of interest, and ensures the objectivity of its activities. In order to ensure impartiality, competence, efficiency, and transparency in the process of testing and certification of traders, GENEX has decided to introduce the ISO17024 standard – "Conformity assessment – General requirements for certification bodies" (SST ISO / IEC 17024: 2012/2012).

Considering the above-mentioned, GENEX in consultation with market participants has developed:

- Certification Guideline;
- Certification scheme:
- Exam Registration Application;
- Exam Rules;
- Exam materials;
- Exam test sample;
- Recertification form;
- · Complaint form;
- Claim form.

All of the above documents are available on the GENEX website. GENEX organizes the Trade representative exam in accordance with the above documents. The first trade representative exam was conducted on April 2021. As of July 1st, a total of 3 exams have been held. The exams were organized and conducted in full compliance with the safety regulations and rules in the country due to the COVID-19 pandemic. Exam tests were available in English at the request of the candidate. Taking the test was possible remotely for those who made a reasoned request about the inability to attend the exam physically.

At this stage, 70 persons have the right to be trade representatives on the Georgian Energy Exchange.

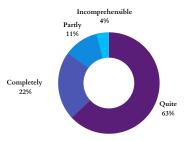
It is noteworthy that before the certification of traders, the exchange operator offered the participants a training course on the following topics:

- Economic fundamentals of trading;
- Legal regulation;
- Platform Instruction.

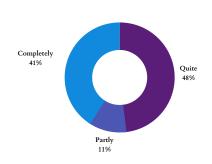
On June 8, 2021, Georgian Energy Exchange applied to the Unified National Accreditation Body of LEPL - Accreditation Center, for obtaining the relevant accreditation for organizing trade representative exams.



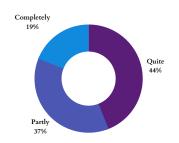
How understandable is the rule of defining the traded energy volume and price on the DAM?



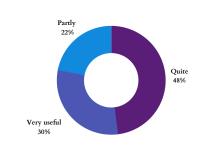
How understandable is the rule of placing sale and buy orders on the Exchange?



How understandable is the price formation on Exchange?

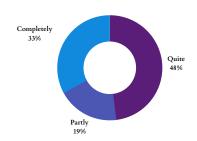


How useful are the trainings and the materials of the trainings provided by the GENEX?

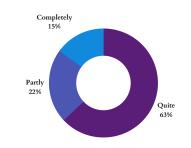


Graph. #4

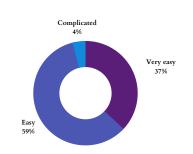
How understandable is the platform instruction?



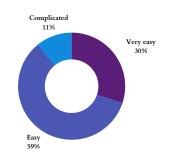
How understandable is "Electricity Dayahead and Intraday Markets Rules"?



How understandable is the financial clearing and settlement rule of the Exchange?



Do you agree with the statement: "In general, GENEX pays enough attention to participants awareness raising and provides enough needed information".



In order to receive feedback from the participants, as well as to identify other issues important to them, a survey was conducted in May 2021. Participants involved in the GENEX test mode had the opportunity to participate in the survey. The survey evaluated the work done by GENEX, as well as the existing regulations. Participants could also indicate in what direction they wanted to strengthen their capabilities. Figure presents the main results of the survey. As a result, GENEX made adjusting changes to the Day-ahead and Intraday market rules, in addition to conceptual changes. The draft rules will be available to participants through a variety of means, including the GENEX website. Also, a number of meetings were held within the ongoing public proceedings in the Regulatory Commission.

Subsequent training and trades will focus on issues where participants have relatively less knowledge.

Based on the results of the survey, GENEX conducted an additional training-meeting on the rules of determining and pricing the amount of energy traded in the Day-ahead market.

During the test mode, the trading platform and the clearing/settlement module were fully tested. The shortcomings in the process of placing orders, calculating the market price, issuing invoices were completely eliminated in the first quarter of 2021, and at this stage, the test platform is working smoothly. Given these circumstances, we also do not expect any delay in the operation of the real platform, as it is based on the same modules.

## INTERNATIONAL COOPERATION AND EXPERIENCE SHARING

The Georgian Energy Exchange actively cooperates with the Energy Community by regular reporting on current and planned activities in different formats.

Within the framework of cooperation with the Energy Community, GENEX was given the opportunity to learn about the experiences of the Croatian Power Exchange (CROPEX) and the See Power Exchange - the Serbian Power Exchange (SEEPEX).

In order to be shared the best practices, GENEX also held meetings with the Bulgarian Independent Energy Exchange (IBEX), GENEX participated in a training course organized for the purpose of participants' certification by the Bulgarian Exchange Operator.



On the Day-ahead the market electricity is traded for each hour of the next day. Unlike the existing model, in the new market model, optimal planning, control of the current position and trading in the relevant markets become especially important. In response to this challenge, the accepted practice is to use appropriate software. Taking into consideration the interest of the participants registered in the simulation trading on the GENEX, the Georgian Energy Exchange organized a meeting, through which the participants had the opportunity to meet service providers working in different countries with similar experiences in the energy markets. As a result, 8 service providers participated in the meeting.

An agreement has been signed between the Georgian Energy Exchange and the Nord Pool Academy, considering the exclusive cooperation between the parties. Members of the Georgian Energy Exchange will have the opportunity to participate in the Nord Pool Academy standard courses at different prices. The agreement also stipulates that upon the request of GENEX members, an exclusive training course can be planned and organized, which will fully correspond to the interests and requirements of the members.

GENEX members and staff participated in the training course: "The Physical and Financial Power Markets" organized by the Nord Pool Academy within the framework of Nord Pool Consulting and GENEX agreement on the academy services.

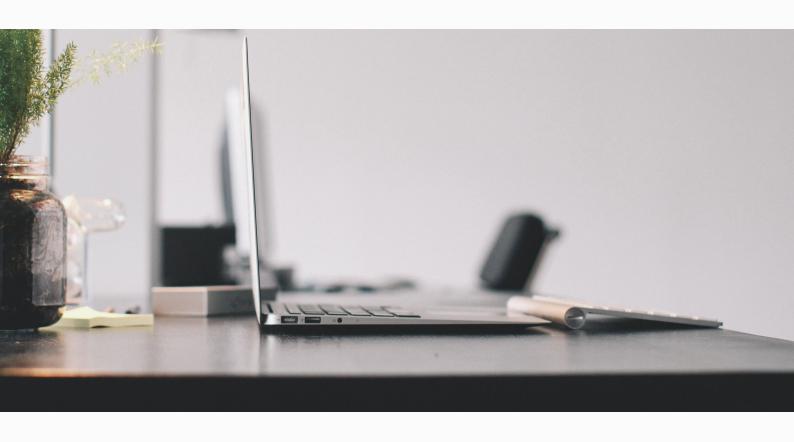












## MEASURES TO BE UNDERTAKEN BEFORE JANUARY 1, 2022

# FOR LAUNCHING THE DAYAHEAD MARKET

By Resolution # 244 of the Government of Georgia of May 31st, 2021, the opening of Day-ahead and Balancing and Ancillary Services markets were postponed until January 1st, 2022.

Market operators have developed a joint plan of activities to be implemented from July 1st to January 1st, according to which the exchange operator will undertake the following measures:

- Organizing trainings for market participants;
- Conducting intensive joint simulation trades and discussing the results with participants;
- Registration of market participants;
- Certification of trade representatives;
- Introduction of effective market surveillance and transparency mechanism;
- Strengthening international cooperation, including collaboration with partner countries, exchanges, organizations, programs, and projects;
- Cooperation with partner organizations in neighboring countries on crossborder trade opportunities;
- Continuing the media campaign to raise public awareness of the energy sector;
- Strengthen the capabilities of the GENEX team.

#36 k.khetagurovi str., 0102, Tbilisi, Georgia +995 32 2 054588 mail@genex.ge



