NATIONAL ENERGY REGULATORY COUNCIL

Annual Report on Electricity and Natural Gas Markets of the Republic of Lithuania to the European Commission

Prepared by:

National Energy Regulatory Council

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1. FOREWORD

In 2021, the National Energy Regulatory Council (hereinafter — NERC), as the Lithuanian energy regulator, continued to contribute to the decisions concerning the integration into the single market and regulatory area of the European Union (EU), to the provision of transparent, non-discriminatory and predictable operating conditions in the energy sector, and the protection of the rights and legal interests of consumers. In 2021, the extension of the LitPol link was successfully completed, the optimisation and preparation of the north-eastern region of the grid for synchronous operation with the continental European grids was completed, and the test of the emergency support of the Lithuanian Electricity Energy System (hereinafter — LEES) from the Polish EES via the synchronous link was successfully implemented. Lithuania has also launched a 200-megawatt (MW) and 200 megawatt-hour (MWh) battery project in 2021, the largest in the Baltic States and one of the largest such projects in Europe. The €87.6 million support was provided for the installation of the project under the Recovery and Resilience Facility of the EU. The four storage units are needed to allow the Baltic electricity systems to operate independently before disconnection from the post-Soviet UPS/IPS system. The 200-megawatt batteries will provide instantaneous electricity reserve since the end of 2022. In 2025, the battery will be transferred to market participants and will be able to provide balancing services, once the project to synchronise the Baltic electricity grid with continental Europe is completed. On 13 September 2021, NERC approved the Methodology on Cross-Zonal Capacity Calculation and Allocation with Third Countries developed by the Lithuanian electricity transmission system operator (TSO) AB "Litgrid". The methodology ensured that the Lithuania-Belarus interconnector would not be used to trade electricity produced in Belarus, and that the interconnector would be allowed to carry the technical flows needed for system reliability and security. When Nord Pool, the operator of the electricity exchange, stopped trading in Russian electricity in May 2022, imports of Russian electricity in Lithuania were halted, and the country's needs are met by local power plants and imports through interconnectors with Sweden, Poland, and Latvia.

Following the adoption in May 2020 of amendments to the Law on Electricity of the Republic of Lithuania (hereinafter — the LE), which allows consumers to choose the most appropriate electricity supplier, the first of three phases of the opening up (liberalisation) of the electricity supply market (hereinafter — Phase I) has been successfully implemented, with 99% (96,585) of the consumers who entered Phase I, with an actual consumption of at least 5,000 kWh per year, having chosen an independent electricity supplier. Due to the volatile electricity price market in 2021, it was decided to extend the deadline for Phase II consumers (consuming more than 1,000 kWh/year) to 18 June 2022 to choose a supplier and conclude contracts. In total, 41% (684,274 consumers, out of a total of over 1.666 million consumers in Phases I–III) had chosen an independent electricity supplier by 11 May 2022. Phase III will require all remaining consumers (those consuming less than 1,000 kWh/year) to choose an independent electricity supplier by 2023. The phasing out of the monopoly public supplier service from 1 January 2021 to 1 January 2023 is being carried out in a step-by-step manner, creating the conditions for the active presence of electricity suppliers.

However, the infrastructure components of the final tariff (monopoly services) will continue to be set by the regulator, taking into account both national and EU regulatory requirements. NERC will have to focus more on the supply market — whether services are provided to consumers on a transparent, non-discriminatory basis, and whether suppliers are not abusing their dominant position in the market. For this purpose, the Independent Electricity Supplier Comparison Tool was launched in 2021 and is free of charge for consumers to compare offers from independent

suppliers. NERC will also set the price of the guaranteed supply service for vulnerable consumers from 1 January 2023.

In 2021, NERC approved the updated Long-Run Average Incremental Cost (LRAIC) accounting model and its results for the period 2022–2026 (the new regulatory period has been set for AB "Litgrid" and AB "Energijos skirstymo operatorius"). These changes will maintain a balance between the benefits to consumers and the sustainable level of indebtedness of companies, and ensure the efficient use of the existing infrastructure and the necessary investments in the network, taking into account the strategic objectives of the State (for more information on the LRAIC model, see the section on "Tariffs for transmission and distribution services").

In March 2022, amendments to the Law on Energy from Renewable Sources were adopted, approving a scheme for tenders for the use of the Marine Area for the development and operation of renewable energy plants (hereinafter — the Tender) and entrusting NERC to organise them. For this purpose, NERC will have to establish a procedure for organising tenders and issuing permits for the use of parts of the maritime area for the development and operation of renewable energy plants, as well as a methodology for determining the maximum transaction price. The first Call for Tenders is expected to take place in early September 2023, with the announcement of the winner at the end of February 2024. The first offshore wind farm is expected to start operating between 2028 and 2030.

In the natural gas sector, NERC continued its cooperation in the Regional Gas Market Coordination Group (RGMCG) on the common Baltic-Finnish natural gas market to establish a common transmission service price area and the Inter-TSO Compensation mechanism (ITC) between Lithuania and the countries of FINESTLAT (Finland, Estonia, Latvia). In 2021, the national regulators of the Baltic States and Finland examined the ITC agreement submitted by the TSOs of their respective countries. At the end of March 2022, the TSOs submitted a revised ITC agreement, which is being assessed by national regulators. The common FINBALT (Finland, Estonia, Latvia, Lithuania) transmission service pricing area is expected to be operational from October 2023.

With the launch of the Gas Interconnection Poland-Lithuania (GIPL) in May 2022, the Baltic States and Finland are now integrated into the single EU gas market. The GIPL pipeline, together with the Klaipėda Liquefied Natural Gas (LNG) terminal, has become an energy security infrastructure not only for Lithuania but also for Poland and the entire Baltic region. GIPL has become important not only in terms of security of supply, but also in terms of LNG terminal utilisation, and the maximum utilisation of the LNG terminal reduces the burden of the gas security component. Following a review of the LNG terminal pricing by NERC, a decision has been taken that as of 1 May 2022 the pricing of the LNG terminal will be based on a cost-based tariff, which means that there will no longer be a share of the maintenance costs of the LNG terminal in the LNG component. This decision will result in annual savings of €26 million for the LNG terminal security component.

In 2021, NERC approved on average 29% lower Amber Grid's transmission service prices, applicable from 1 January 2022. In order to ensure competition between sources of natural gas imports, as well as to promote competition between natural gas suppliers and not to create additional market barriers to the use of LNG terminal gas, and taking into account the natural gas transmission price decisions of the Latvian, Estonian, and Finnish Common Price Area (FINESTLAT), whereby natural gas transmission prices for the entry points of the FINESTLAT

Common Price Area are set at a uniform level, NERC has established the entry-exit split of 82.11% / 17.89% of the revenue of transmission service. Taking into account that the discount at the entry point of the Klaipėda gas metering station will increase competition on the natural gas market and stimulate the use of the LNG terminal, NERC agreed to apply a 75% discount at the entry point of the Klaipėda gas metering station.

The Chair of the Council  Renatas Pocius

2. MAIN DEVELOPMENTS IN THE GAS AND ELECTRICITY SECTORS

2.1. Market development and surveillance

- Electricity market

In 2021, the amount of electricity imported into the Lithuanian Electricity Energy System (LEES) increased slightly compared to 2020 and accounted for 86.7% of the country's total electricity demand in 2021 (demand — 13.7 TWh). In 2021, the country generated 4.69 TWh of electricity, imported 11.91 TWh and exported 2.87 TWh. The national electricity consumption in 2021 was 12.76 TWh. The total installed capacity of the power plants decreased to 3,667 MW in 2021 (3,721 MW in 2020).

Total network investments in 2021 remained similar compared to the previous year: the investments of the Distribution System Operator (DSO) amounted to EUR 102.7 million in 2021 (an increase of 3.9% compared to 2020), while the investments of the TSO for the same period amounted to EUR 53.13 million, which is 3.6% less than in 2020 (EUR 55.12 million). The maximum hourly electricity demand (net) in Lithuania in 2021 was 2,217 MWh (14.38% more than in 2020), including 1,990 MWh in the distribution grid (5.9% more than in 2020).

In 2021, NERC regulated 4017 undertakings in the electricity sector. This includes licensed or permit-regulated activities for independent power supply, independent power aggregation, transmission, distribution, public supply and electricity generation, as well as authorisations to develop generation capacity. At the end of 2021, the following companies were licensed by NERC: AB “Litgrid” — electricity TSO, AB “Energijos skirstymo operatorius”, AB “Achema”, AB “Lifosa”, AB “Akmenės cementas” and UAB “Dainavos elektra” — electricity DSOs, UAB “Ignitis” (formerly UAB “Lietuvos energijos tiekimas”), AB “Lifosa” and AB “Akmenės cementas” — public electricity suppliers. In 2021, 96 companies held independent power supply permits, of which 29 were active in independent power supply.

At the end of 2021, 3,815 entities (natural and legal persons) held electricity generation permits issued by NERC, of which 1,312 were prosumers.

Fig. 1. Number of NERC-regulated market participants in the electricity sector in 2021

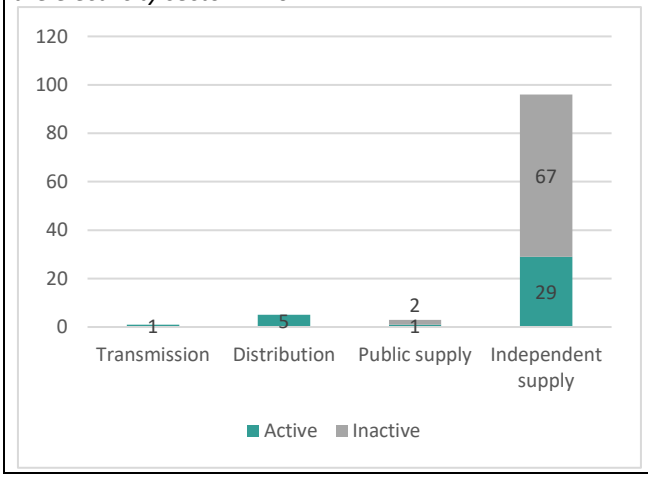
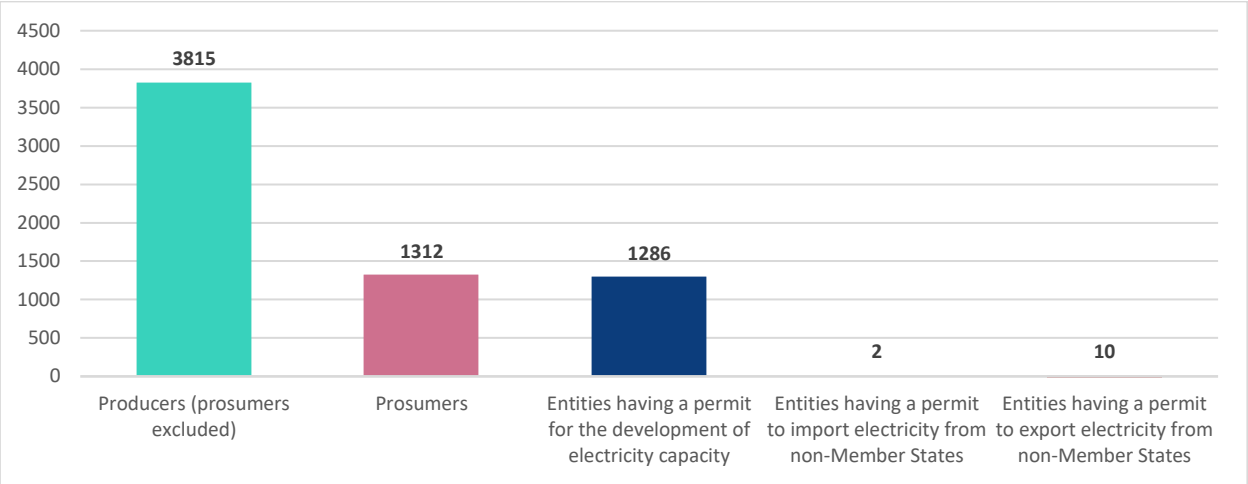


Fig. 2. Number of NERC-regulated market participants in the electricity sector in 2020

Source — NERC.

Fig. 3. Number of market participants regulated by the NERC in 2021



Source — NERC.

In 2021, NERC issued 7 permits for independent power supply. In order to carry out activities in the electricity sector, undertakings are required to obtain a NERC permit. When applying for a permit to develop electricity generation capacity, a copy of the pre-conditions for connection of the power plant to the grid issued by the grid operator is required, in addition to the other required documents. A NERC permit for the development of electricity generation capacity is not required if the person intends to build or install electricity generation capacity with an installed capacity of 30 kW or less and to produce electricity solely for their own use and their own economic needs, without supplying electricity to the grid, or if the person seeks to become a prosumer and intends to build or install electricity generation capacity from renewable energy sources with an installed capacity of 30 kW or less. A NERC permit is not required for the production of electricity if the person intends to produce electricity from renewable energy sources in installations for the production of electricity from renewable energy sources up to an installed capacity of 30 kW.

In 2021, 252 permits to generate electricity and 628 permits to develop electricity generation capacity were issued.

- Natural gas market

In 2021, NERC adjusted and specified the regulations governing the natural gas sector. The following legislation has been amended (see more in section 4.1 “Network regulation”):

- *The Procedures for Assessing and Coordinating Investments in Natural Gas, Electricity and Liquefied Petroleum Gas;*
- *The Description of the Requirements for Accounting Separation and Cost Allocation of Natural Gas Undertakings;*
- *The Methodology for Setting State-Regulated Prices in the Natural Gas Sector;*
- *The Methodology for Determining the Revenues and Prices of State-Regulated Natural Gas Transmission Activities;*
- *The Description of the Reliability and Quality Indicators of Services Provided by Natural Gas Undertakings and the Procedure for Their Assessment.*

No decision has been taken on the establishment of a common price area for transmission services between Lithuania and the FINESTLAT countries and the ITC mechanism to be applied in 2021. However, in 2021, the national regulators of the Baltic States and Finland examined the ITC agreement submitted by the TSOs. At the end of March 2022, the TSOs submitted a revised ITC agreement, which is being assessed by national regulators. It is expected that the common transmission service area between Lithuania and FINESLAT could be operational from October 2023.

In 2021, NERC approved on average 29% lower Amber Grid's transmission service prices, applicable from 1 January 2022. In order to ensure competition between sources of natural gas imports, as well as to promote competition between natural gas suppliers and not to create additional market barriers to the use of LNG terminal gas, and taking into account the natural gas transmission price decisions of the Latvian, Estonian, and Finnish Common Price Area (FINESTLAT), whereby natural gas transmission prices for the entry points of the FINESTLAT Common Price Area are set at a uniform level, NERC has established the entry-exit split of 82.11% / 17.89% of the revenue of transmission service. Taking into account that the discount at the entry point of the Klaipėda gas metering station will increase competition on the natural gas market and stimulate the use of the LNG terminal, NERC agreed to apply a 75% discount at the entry point of the Klaipėda gas metering station.

UAB “GET Baltic” traded 7,956,662 MWh of natural gas on the natural gas exchange in 2021. Compared to the 2020 period, the volume of natural gas traded on the natural gas exchange of UAB “GET Baltic” was 9.43% higher. In 2021, 23,846 GWh of natural gas was sold and/or consumed on the wholesale natural gas market, an increase of 1.92% compared to the 23,397 GWh of natural gas sold and/or consumed in 2020.

Natural gas imports in 2021 amounted to 26,307 GWh, 21.6% lower than in 2020. In 2021, compared to 2020, natural gas sales increase by 13.82%, from 19,360 GWh to 22,036 GWh. In the natural gas sector, NERC regulated 44 undertakings in 2021. In the natural gas sector, transmission, distribution, storage, liquefied natural gas (LNG) regasification, supply and market operator activities are licensed or regulated by permits. At the end of 2021, the following companies had licences issued by NERC: AB “Amber Grid” — natural gas TSO, AB “Energijos skirstymo operatorius”, UAB “Intergas”, UAB “Gren Lietuva”, AB agro firm “Josvainiai”, UAB “SG dujos” — natural gas DSOs, AB “Klaipėdos nafta” — LNG re-gasification company, UAB “GET Baltic” — natural gas market operator. 36 companies held natural gas supply permits, of which 20 were operational. In 2021, 6 natural gas supply permits were issued.

The revenues of the natural gas sector (transmission, distribution, LNG regasification, supply) amounted to €913 million in 2021, almost 1.5 times higher than in 2020 (€366.21 million) as a result of the increase in the price of natural gas product. In 2021, the revenues of transmission and LNG system operators were lower than in 2020, while the revenues of supply companies and the revenues of regulated activities of DSOs were higher than in 2020. The increase in revenues of natural gas supply companies is due to the increase in the price of imported natural gas (product) purchased bilaterally and on exchanges in 2021. The total investment in the natural gas sector in 2021 is EUR 56.6 million, a decrease of EUR 51.8 million or 47.78% compared to 2020 (EUR 108.4 million). During the period covered in terms of the transmission activities, significant Projects of Common Interest (PCIs) were being developed, namely GIPL and Enhancement of Latvia-Lithuania interconnection (ELLI).

2.2. Implementation of the Clean Energy Package

The provisions of Directive (EU) 2019/944 of the European Parliament and the Council concerning common rules for the internal market in electricity and amending Directive 2012/27/EU (hereinafter —the Electricity Directive or Directive (EU) 2019/944) have been transposed into the legislation of the Republic of Lithuania as of 1 January 2022, but most of the subordinate legislation is expected to be adopted within 2022. In this section, we outline the main decisions related to the Clean Energy Package.

Approval of the proposal for a Baltic Regional Coordination Centre

The European Union Agency for the Cooperation of Energy Regulators (ACER), in which NERC is actively involved, in close cooperation with the national regulatory authorities of the European Union, has published a decision defining and approving the system operation regions based on which the regional coordination centres will be established under Regulation (EU) 2019/943 of the European Parliament and of the Council of 5 June 2019 on the internal market for electricity (the Regulation). **The aim** is to establish a regional authority to ensure a high level of coordinated system management and security and reliability of supply.

The Baltic Regional Coordination Centre will replace the current Regional Security Coordinator and will be responsible for regional capacity allocation calculations, scoping of the region's reserve capacity, security analyses, the development of common network models, adequacy forecasts, and other tasks, as well as contributing to the evaluation of the TSO's system defence and restoration plans. The Regional Coordination Centre will be the main coordinator for the synchronisation of the Baltic energy system with the continental European grids.

Following the provisions of the Regulation, all TSOs in the system operating region shall submit a proposal for the establishment of regional coordination centres to the relevant regulatory authorities. In order to implement these provisions, NERC approved a proposal prepared by AB “Litgrid” and other Baltic TSOs for the establishment of a Baltic Regional Coordination Centre. A common Baltic decision was reached that the Regional Coordination Centre will be based in Tallinn, with a rotational appointment of the Centre's leaders, and that the Baltic TSOs will have the same number of shares in the Coordination Centre and the same number of expert representatives per country. The Baltic Regional Coordination Centre must start operating no later than 1 July 2022.

Electricity price comparison tool

The aim is to develop a tool to make it easier to compare the prices of independent electricity suppliers and choose a supplier. In September 2021, NERC launched a new electricity price comparison tool for household consumers — a tool that facilitates the process of choosing an independent electricity supplier and provides consumers with more information on electricity tariffs charged by suppliers. The tool allows you to compare the offers of different independent electricity suppliers based on criteria that are relevant to consumers: the annual/monthly electricity consumption of the consumer, the number of time zones, the demand for renewable energy, and the duration of the price fixation offered in the plan (for a period of 1 to 12 months, for a 13- to 24-month period, or for a period of time of longer than 2 years). Once the criteria have been selected, the user is presented with the plans offered by the suppliers, ranked from

cheapest to most expensive. The tool is available on the NERC website https://skaiciuokle.vert.lt/.

NERC has adopted a Description of the Procedure for Granting and Withdrawing the Trust Marks for the Comparison of Offers of Independent Electricity Suppliers, which entered into force on 1 September 2021. NERC has the power to grant a trust mark to electricity price comparison systems emerging in the market. The reliability label will indicate that the comparison tool is independent of market participants, that the plans of independent electricity suppliers are compared in a transparent, objective manner, and that the results of the comparison are unbiased toward suppliers. An economic operator applying for a reliability label for a comparison tool will have to apply to NERC, which will test the functionalities of the comparison tool and decide whether or not to grant the trust mark.

Restrictions on the ownership of energy storage devices by operators

In order to implement the provisions of the Clean Energy Package regarding restrictions on the ownership, development, management, or operation of energy storage facilities by operators, NERC has approved a Description of the Procedures and Conditions for the Granting of Authorisation for an Electricity Network Operator to Own, Develop, Manage or Operate Energy Storage Facilities, which sets out the procedures for the submission and examination of applications, and the conditions under which NERC will grant authorisation to electricity network operators for the ownership, development, management, or operation of energy storage facilities. The provisions of this description should ensure that energy storage in Lithuania is developed as a competitive and commercial activity between market participants, with unregulated service prices, and that it is developed by operators only in exceptional cases to ensure system security and reliability.

It also sets out mandatory guidelines for the tendering process for the sale and transfer to the market of energy storage equipment by operators, which provides for the possibility for electricity network operators to be recovered/compensated for the residual value of the energy storage equipment, thus ensuring the protection of the investments made by operators.

3. ELECTRICITY MARKET

3.1. Regulation and technical functioning of the network

- Unbundling of activities

- Article 59(1)(j) of Directive (EU) 2019/944: Cross-subsidisation

In 2021, there were no changes regarding the implementation of the provisions of the LE related to the unbundling of activities and control of AB "Litgrid" and AB "Energijos skirstymo operatorius"[1]. Under these provisions, NERC monitors the effective unbundling of activities in the energy sector, the independence of transmission and distribution activities from commercial interests in energy activities, and the avoidance of cross-subsidisation. These legislative provisions also remain unchanged in 2021. The NERC continues to constantly monitor and control the manner in which the electricity TSO and DSOs, ensure the independence and unbundling requirements set out in Article 54 (1) and (3) of the LE in the course of their activities, through the following measures:

1. ***Application of the technical task for the verification of regulated activity reports.*** *Following the adoption of the technical task for the verification of regulatory activity reports, by NERC in 2019, compliance with the unbundling of regulated activities and accounting is additionally monitored by detailed procedures for the verification of regulatory activity reports by independent auditors. In 2021, the reports of findings to be submitted to NERC on the verification of the unbundling of regulatory activities and accounting enforcement, carried out by independent auditors, were submitted to NERC for further evaluation. No significant non-compliance with the unbundling of regulated activities and accounting requirements was observed. In 2021, the annual Technical task for the verification of Regulatory Activity Reports was approved/renewed and will be used for the verification of the Regulatory Activity Reports submitted to NERC in 2022.*
2. **Requirement to submit a regular compliance report.** NERC requires DSOs to have a compliance program developed in accordance with criteria/requirements approved by NERC. In accordance with this program, the DSO shall report to the NERC on the conditions for non-discrimination of electricity network users, non-discriminatory access to and use of electricity distribution networks, the independence of the DSO's activities from the interests of the generation and supply activities, and the measures taken to avoid cross-subsidisation of these activities. The DSO shall make publicly available and submit an annual report on the compliance program to NERC by 1 May each year.

[1] In the event of a change of circumstances which would prevent the implementation of the requirements for the unbundling of activities and accounting set out in Article 54(1) and (3) of the Law on Electricity (hereinafter - LE), AB "Energijos skirstymo operatorius" is obliged to inform the National Electricity Regulatory Council (hereinafter - NERC) no later than within 5 working days from the change of these circumstances. In 2021, no such change of circumstances was recorded.

- Network development and optimization

- Article 59(1)(k) of Directive (EU) 2019/944: Investment plans

Supervision of AB "Litgrid" investment plans are carried out in accordance with the conditions set out in the LE. The TSO AB "Litgrid" shall submit to NERC at least every 2 years (until 1 July 2022) a 10-year transmission network development plan, which shall include an assessment of the current and projected supply and demand for electricity, and the conclusions of a probabilistic assessment of the adequacy of the electricity system. In the course of its coordination, NERC shall assess the investments already implemented by the TSO or adjust accordingly the previously agreed but not yet implemented investments, their deadlines, amounts of works, etc.

On 30 June 2021, the 2021-2030 Lithuanian Power System (LPS) 400-110 kV grid development plan was received. The plan was subject to a public consultation by NERC and, after assessing the comments received, NERC by Decision No. O3E-1389 of 29 October 2021, approved the development plan for the period 2021-2030 prepared by AB "Litgrid".

Around EUR 138 million is foreseen for investments in the development and upgrading of the electricity transmission network for the period 2021-2030. This represents a 6.5% increase compared to the amount planned for the network development in the 2020-2029 plan.

In the period of 2021-2030, the main investments will focus on the integration of electricity market infrastructure and system management into the European electricity system, with up to 75% of the funds needed for this work to be mobilized through the Connecting Europe Facility (CEF), as well as on the transmission network projects needed to ensure efficient use and reliability of the network (network rehabilitation, modernization, overhauls, etc.).

During 2021, AB “Litgrid” has made significant progress in implementing PCI projects and other strategic (synchronisation) projects:

- *The LitPol Link extension project was completed. This project involved the installation of 3 600 MVA autotransformers at the Alytus converter station.*
- *The "Harmony Link" project is ongoing (the link will consist of a high-voltage DC cable and converter stations in Darbėnai (on the Lithuanian side) and Žarnovie (on the Polish side). In 2021, the concept of the engineering infrastructure development plan for the "Harmony Link" and the 330 kV substation Darbėnai was approved.*
- *The construction of the Vilnius-Neris 330 kV electricity transmission line continues. In early 2021, an engineering infrastructure development plan for the project was completed and approved. Procurement procedures for design and contracting works are currently being organised.*
- *The project for the construction of the 330 kV electricity transmission line Kruonis HAE-Bitėnai is continuing (the new line will be formed by reconstructing the existing 330 kV line Jurbarkas-Bitėnai, constructing a new section of the line, and using part of the existing 330 kV line Kruonis HAE-Sovietskas). A design and contracting works contract for the reconstruction of the 330 kV Jurbarkas-Bitėnai line is also signed.*
- *The project for the construction of the 330 kV electricity transmission line Darbėnai-Bitėnai continues (the new line will be formed by reconstructing the existing 330 kV lines Klaipėda-Grobinė, Šyša-Klaipėda, Bitėnai-Šyša and by constructing a new 330 kV line section). The development plan for the line was presented to the public in*

early 2021. A design and contracting works contract for the reconstruction of the 330 kV Klaipėda-Grobinė line is also signed.

- *The project to install new synchronous compensators in the Lithuanian electricity system continues. A design, manufacturing and contracting works contract was signed in 2021. It is the second largest budgeted project after "Harmony Link". The project will install three synchronous compensators.*
- *The construction of the 330 kV "Mūša" switchyard continues. In 2021, an engineering infrastructure development plan was approved and land acquisition procedures for public use were launched.*
- *At the end of 2021, AB "Litgrid" and the Polish TSO PSE carried out a test in which a part of LEES operated synchronously with the Polish system, and with the synchronous area of continental Europe. Several more crucial tests are planned before synchronisation with continental European networks. A Lithuanian isolated operation test is planned for 2022, followed by a joint isolated operation test of the Baltic power systems.*

The DSO, in accordance with the Description of the Procedure for the Assessment and Coordination of Investments of Energy legal entities at the State Prices and Energy Control Commission approved by NERC, prepares a long-term investment program of the regulated activity for the regulatory period and submits it to NERC.

Since 2018, the DSO AB "Energijos skirstymo operatorius", as a DSO serving more than 100,000 customers, publishes its investment plans on its website in accordance with the obligation laid down in Article 39^1 of the LE. Prior to the publication of the 10-year plan for the development, renewal, modernization and investments of distribution networks, the DSO conducts transparent and public consultations with competent public authorities and other interested parties. The investment plan for the period of 2021-2030 is currently published. AB "Energijos skirstymo operatorius" foresees that in 2021-2030, the investment needs for the development and renewal of the electricity distribution network will amount to approximately EUR 1 919 million, i.e., it will increase by 0,5% compared to the period of 2020- 2029 (EUR 1 910 Million). The main areas of investment: enhancement of network reliability (replacement of overhead electricity lines with underground electricity lines while prioritizing the replacement of unreliable and incident-prone lines, wooded areas and solutions aimed at the improvement of voltage quality), network smartification (installation of automated equipment or equipment that is monitored and controlled by the dispatcher remotely, as well as installation of smart meters for the customers), customer experience and market empowerment (development of a data exchange platform (hereinafter referred to as "the Data Hub"), upgrading of information systems, etc.).

- Article 59(1)(l) of Directive (EU) 2019/944: Smart grid development

Every year, AB "Litgrid" implements reconstruction projects for transformer substations and electricity transmission lines, replacing outdated equipment with the latest technologies, measurement, monitoring and control systems. All of this allows for advanced monitoring and management of LEES. Ensuring the supply of electricity-to-electricity customers' facilities, increasing the electricity security of supply, reducing operational and operational management costs, developing and modernizing smart grids allow for more efficient and reliable energy consumption, and increase the market integration of renewable energy sources.

In 2021 the DSO continued the deployment of self-healing network solutions (without dispatcher involvement during faults). By 2021, more than 260 units of 10 kV lines have already been configured with automated fault location in the DMS system. At the end of 2021, there were over 280 FLIR *(Fault Location Isolation Restoration*) automation programs developed, i.e. the FLIR program is built on the circuit breakers and if any of the circuit breakers involved in the logic is disconnected, the FLIR recovery program will start. During 2021, 18 unmanaged 10 kV distribution points were reconstructed to expand remote and automatic network management (smart grid), as a separate measure to introduce remote dispatcher-controlled equipment. To increase the manageability of the 10 kV network, lines are being reconstructed and remote-control devices are being installed to ensure that the maximum number of customers disconnected during a single fault when using remote control solutions is 600 or less. In 2021, 6 units of 10 kV lines were automated. The plan is to further expand the deployment of switching devices on selected network segments, which would detect and disconnect (isolate) the affected network segment without the intervention of the dispatcher.

In 2021, an advanced technology asset management system (*Asset Management System*) has been launched. A common information system intended for the management of technological assets will collect representative data on distribution networks, paving the way for a shift towards active asset and automated management of network maintenance activities. In 2021, an analysis of asset data models and operational processes has been carried out, a data model has been designed, the system has been programmed, and test data migrations have been carried out. Implementation and commissioning of the system is planned for 2022.

In 2021, the Geographical Information System (hereinafter - GIS) was updated, the natural gas distribution part was installed and the electricity part was analysed. The aim is to introduce a single GIS system for the electricity and gas sectors, allowing DSO's to carry out more efficient maintenance of their facilities, to plan the necessary investments and network maintenance, to plan more quickly the connection of new customers and to manage electricity losses more effectively.

AB "Energijos skirstymo operatorius" plans to install smart electricity meters for electricity customers. A contract for the purchase of smart metering infrastructure was signed in 2021. Once the contract is signed, a smart metering implementation plan is prepared. According to the investment plan agreed with NERC on 19 September 2019, smart meters will be installed in two phases, by 2025 and 2037. Mass roll-out is expected to start in March 2022. The roll-out will start with the customers and businesses consuming the most electricity (around 1.2 million smart meters will be installed by the end of 2025), and then to all other customers. In the first stage, the meters installed will meter about 90% of the electricity distributed.

- Network tariffs

- Article 59(1)(o) of Directive (EU) 2019/944: evolution of network tariffs

Tariffs for transmission and distribution services

The NERC, in accordance with the provisions of the Law on Energy and the LE, approves the methodologies for the calculation of price caps for the services of electricity transmission, distribution, sets the price caps for state-regulated services and electricity, and assesses the

prices and tariffs submitted by service providers. It also approves the fees for the connection of the electrical equipment of customers and producers to electricity networks, the methodology for fees' determination, which also lays down the terms and conditions of the calculation of said fees, in accordance with the general requirements for the setting of fees specified in the LE.

Since 2016, NERC has applied the Long-Run Average Incremental Cost (LRAIC) accounting model to determine the capital costs of a transmission system operator and an DSO's with more than 100,000 customers in its service territory. Taking into account the comments made by legal entities and the need to update the LRAIC accounting model as a result of the transformation in the electricity sector, NERC has implemented a project for the update of the LRAIC accounting model in 2021, which aims to establish the main technical and economic principles for the development of the LRAIC model, which will be used for the determination of the long-term average incremental costs of the NERC regulated services. The project establishes a common framework for the LRAIC model, which provides the basic principles for the development of the LRAIC model, network modelling, and the allocation of capital and operating costs to each network element. The updated LRAIC accounting model is based on transparent assumptions for technology optimization, costing and demand forecasting. This project was implemented using service providers (Project value: EUR 167,851.20 including VAT).

The project developed and presented to market participants the methodological guidelines for the LRAIC accounting model and drafted the LRAIC accounting model based on these guidelines. After collecting the necessary information from the regulated legal entities, the LRAIC accounting model was used to perform the calculations and to prepare public and confidential versions of the LRAIC accounting model and to present the results of the calculations to market participants. In addition, instructions for the use of the LRAIC model have been prepared and proposals have been made for amendments to the Methodology for Setting of Price Cap for Electricity Transmission, Distribution and Public Supply Services and the Public Supply.

In accordance with the approved updated methodology for Setting of Price Cap for Electricity Transmission, Distribution and Public Supply Services and the Public Supply, the price caps for transmission and distribution services for 2022 were calculated in 2021, in line with the implementation of the updated LRAIC model (see Table 1).

After taking into account the transmission system operator's costs and discrepancies for previous periods, NERC set a 5.22% lower price cap for transmission service for 2022. The decrease is due to the lower volume of depreciation costs and return on investment for the new regulatory period, as a result of the adoption of the updated LRAIC accounting model and the estimated discrepancies between the actual return on investment compared to the set return on investment for previous periods.

After assessing the costs and historical discrepancies of a DSO with more than 100,000 customers in its service territory, NERC set a 23.56% lower price cap for the medium voltage electricity distribution service and a 9.77% lower price cap for the low voltage electricity distribution service for 2022. This decrease is due to the lower volume of operating costs set for the new regulatory period, the lower volume of depreciation costs and return on investment due to the adoption of the updated LRAIC accounting model, and the estimated discrepancies in actual return on investment compared to the set return on investment for previous periods.

The cost of system services in 2022 has decreased by 22.7% compared to 2021. The price decreases due to the difference between the costs actually incurred in the previous year and the forecast costs set by NERC, as well as the higher volumes of electricity forecast by the TSO. The price of these services is set taking into account the price caps for reserve capacity services, the need for isolated operation of the electricity system and/or prevention or elimination of a black-out, and the volume of services forecast by the TSO for 2022.

Table 1. *Price caps for the services of electricity transmission and distribution for 2021-2022 (ct/kWh)*

Economic entity		Regulatory period, years	Price cap for regulated service (ct/kWh) 2021	2022	Difference, %.
Electricity transmission					
Transmission (AB "Litgrid")		2022-2026	0.721	0.684	-5.22
System services		-	0.762	0.589	-22.7
		Electricity distribution			
ESO	*MV*	2022-2026	1.167	0.892	-23.56
	LV		2.171	1.959	-9.77
		Small distribution network operators			
AB „Achema“		2020-2024	0.52	0.57	+9.62
AB „Akmenės cementas“	*MV*	2020-2024	1.210	0.905	-25.24
	LV		1.281	1.513	+18.1
AB „Lifosa“	*MV*	2020-2024	2.267	2.34	+3.22
	LV		3.271	3.482	+6.46
UAB „Dainavos elektra“	*MV*	2020-2024	1.058	1.164	+10.08
	LV		1.801	2.275	+26.32

Source - NERC.

Prices for electricity reserve capacity services and isolated operation services

According to the results of the electricity reserve capacity services market study approved by NERC in February 2019, AB "Ignitis gamyba” was found to have significant market power in the market for the provision of secondary active power reserve services and in the market for the provision of tertiary active power reserve. In this context, the prices of the above services of AB “Ignitis gamyba“ are regulated. The results of the above mentioned market study also identified AB "ORLEN Lietuva", AB “Panevėžio energija" and UAB "Kauno termofikacijos elektrinė" as having significant market power in the market for the ensuring of tertiary active power reserve service, only in the case when, prior to the commencement of the auction of the tertiary active power reserve provision service, the TSO of the electricity system announces the ordering of the additional capacity of the power generators capable of providing the service of the isolated operation of the power system, and the prices of the Isolated operation energy system are not regulated in accordance with the statutory procedure or the prices of the Isolated work service are based on full cost recovery of the costs of the Isolated operation service, and the capacity of all generators capable of providing the tertiary active power reserve and the Isolated operation services would be needed to provide the services. Once the market condition is met, the prices of the tertiary active power reserve service provided by these companies become regulated. Also, under the provisions of the LE, the prices of the isolated electricity system operation service are also subject to regulation once the above condition has been established.

For the year 2022, the TSO AB "Litgrid" has provided the planned average demand of 397 MW/h for the secondary emergency power reserve service and has also informed prior to the start of the tertiary active power reserve service that the isolated operation of the electricity system will

require the capacities of all the generators capable of providing the tertiary active power reserve and the isolated operation services. In the light of the above, NERC has established the price cap for the service for the secondary emergency active power reserve (frequency restoration reserve) of the Kruonis pumped storage power plant, a unit of AB "Ignitis gamyba" - Lithuanian power plant combined cycle Unit 7 and 8, and for AB "Panevežio energija", AB "ORLEN Lietuva", UAB "Kauno termofikacijos elektrinė" tertiary active power reserve assurance (replacement and reserve) for 2022. Also, NERC has set the revenue cap for the AB "Ignitis gamyba", emergency, disruption prevention and their removal service, which the company will provide together with Kaunas "Algirdas Brazauskas" hydro-electric and Kruonis hydroaccumulation power plants. NERC also set price caps for the isolated operation of the electricity system service for the facilities of the following legal entities: AB "Ignitis gamyba", AB "Panevėžio energija", AB "Orlen Lietuva", UAB "Kauno termofikacijos elektrinė" and AB "Achema". In order to create a level playing field in terms of competition, the price caps for these services are confidential and not made public.

Cost of the services of public interest

The NERC determines the need for the services of public interest (hereinafter - SPI) budget, the SPI prices and the distribution to SPI providers. The general SPI budget for 2021 was set at EUR 110.53 million of this amount, EUR 95.08 million was allocated to the production of renewable energy sources (hereinafter - RES) production, and EUR 15.17 million for the reimbursement of the SPI funds to customers eligible under Article 741 (3) of LE for the amount of electricity they consumed in excess of 1 GWh in the previous calendar year (EUR 15.17 million). The planned budget for 2022 is EUR 72.10 million, with the majority of the funds allocated to RES production.

Table 2. *Budget and prices for SPI funds in 2020-2022*

	2020		**2021**		**2022**
	Planned	***Paid out***	***Planned***	***Paid out***	***Planned***
Total SPI funds, million EUR, of which:	**136.70**	**145.48**	**110.53**	**42.47**	**72.10**
To support the production of electricity from RES (including balancing and centralized purchasing), million EUR	120.85	132.26	95.08	32.11	59.62
Repayment of SPI funds under Article 741 of LE, million EUR	15.55	11.46	15.17	10.17	12.26
SPI price, ct/kWh	***I half of the year***	***II half of the year***	***I half of the year***	***II half of the year***	***I half of the year***
	0.683	**1.251**	**1.124**	**1.006**	**0.321**

Source - NERC.

The main reason for the difference between the paid-out and the planned SPI funds is the difference between the forecasted average electricity market price and the actual price. It is in order to reduce the resulting difference between the need for SPI funds and the actual collection of funds in both 2020 and 2021 that the SPI price for the second half of the year has been revised.

The cost of using networks for prosumers

For the coming year, NERC has set the prices for the electricity grid access service for customers producing electricity from renewable energy sources (hereinafter - prosumers) in four options, depending on the voltage and the electricity grid operator providing the service. The prices for the service provided by AB "Energijos skirstymo operatorius" have been decreasing in all options. The main reasons for the price decrease under Options I-III are the lower prices for transmission

(including system services) and distribution services, while under Option IV the higher forecast electricity market price.

Table 3. *Comparison of prices of electricity network access service of AB "Energijos skirstymo operatorius" for 2022 and 2021*

Options	Measurement units	2022		2021		Change (percent)	
		MV	LV	MV	LV	MV	V
Option I. Single-party, paid per 1 kWh of electricity recovered from the grid	Eur/kWh	**0.018**	**0.037**	0.023	0.045	**-22**	**-18**
Option II. Single-party, paid per 1 kW of installed power plant capacity	Eur/kW	**11.86**	**25.01**	16.26	31.68	**-27**	**-21**
	Eur/kW/month	**0.99**	**2.08**	1.36	2.64		
Option III. Price of additional services	Eur/kWh	**0.009**	**0.019**	0.011	0.022	**-18**	**-14**
	Eur/kW	**5.93**	**12.50**	8.13	15.84	**-28**	**-21**
	Eur/kW/month	**0.49**	**1.04**	0.68	1.32		
Option IV. Percentage of electricity volume used to pay for use of the electricity network	Percent	**21**	**33**	26	41	**-19**	**-20**

Source - NERC.

Fees for connection to the electricity grid

By 30 November of the current calendar year at the latest, NERC shall calculate, approve and publish on its website the fees and maximum design prices for the connection of customer installations for the relevant year.

NERC, having assessed the actual costs incurred by AB "Energijos skirstymo operatorius" in connecting customers to the electricity grid, has set the tariffs for the connection of customers to the electricity grid for 2022. Increases in fees were influenced by the inclusion of capitalized labour costs in fees, increases in the cost of contractors' materials, on the other hand, by the decrease in the costs for some contracts for contracted works, and decreases in average design cost, which accounted for the effect.

Table 4. *Fees for the construction of 1 m of electricity network and the installation or enhancement of 1 kW of permissible power (100%*), design preparation fee (when the design is prepared by the operator) and the maximum compensated design price, EUR excluding VAT*

Customer group	Fee for the installation or enhancement of 1 kW of permissible electrical equipment power (EUR)		*Change (%)*	Fee for the construction of 1 m of electricity network (EUR)		*Change (%)*	Design preparation fee (EUR)		*Change (%)*	Maximum compensated design cost (EUR)		*Change (%)*
Year	2021	2022		2021	2022		2021	2022		2021	2022	
I	15.75	28.82	*82.95*	-	-	-	-	-	-	-	-	-

II	96.23	83.06	*-13.68*	34.28	34.98	*2.02*	628.61	572.83	*-8.87*	628.61	572.83	*-8.87*
III	56.12	40.68	*-27.51*	37.43	42.66	*13.96*	835.05	654.79	*-21.59*	835.05	654.79	*-21.59*
Customers with a new connection or an increase in the authorized power greater than 500 kW	Pay according to the actual cost of the work									1 432.72	881.59	*-38.47*
Customers with a new connection or an increase in authorized power of 1 MW or more	Pay according to the actual cost of the work									4 961.93	1 981.01	*-60.08*

** An equivalent 20% design preparation fee and 80% compensated design price for vulnerable customers, for other customers*

*** 50% design preparation fee and 50% compensated design price.*

*** Other customers (excluding: (1) vulnerable customers, (2) customers, connecting their electrical installations to the distribution network for the first time which has a permissible power of at least 1 MW or the enhanced permissible power is more than 1 MW, who undertake to distribution network operator not to reduce the permissible power for 10 years from the moment of connecting the electrical installation to the distribution network as well as (3) customers, whose the permissible power or the enhanced permissible power of the electrical installation is more than 250 kW and producers whose electrical installation to be connected to electricity networks requires the installation of transformer stations, transformer substations, distribution points, and, in specified cases, constructors (customers) who wish to install these electricity networks and organize their installation in accordance with the procedure established by the Ministry of Energy and agreed with the distribution network operator.*

Source - NERC.

The NERC has calculated and approved fees for the connection of electricity installations to the electricity grid (100%) for the following groups of customers:

- *Group I - customers whose permitted power use of the electrical installation connected to the grid or increased permitted usage of power of the electrical installation does not exceed 50 kW and for the connection of whose installation it is not necessary to install, modify or reconstruct the operator's electricity facilities and it is not necessary to prepare a project for the connection of the customer's electrical installation to the electricity grid, or such a project needs to be prepared, but it shall be prepared and coordinated by the customers.*
- *Group II - Customers whose connected electrical installations have a power rating or increased power rating of less than 100 kW (excluding Group I customers);*
- *Group III - Customers whose connected electrical installations have a permitted power or increase in permitted power of between 100 and 500 kW (inclusive).*

Tariff for the access to interconnection lines (AIL)

Under the amendments to the LE that entered into force in March 2014, NERC sets the tariff of the service of access to interconnection lines, which is applied to electricity exports to third countries. In 2021, NERC approved the price of the service of access to interconnection lines (hereinafter – AIL) for 2022, which amounts to EUR 6.84/MWh, 18.8% higher than in 2021 (EUR 5.76/MWh). Up-to-date information on the price of AIL is available on the NERC website www.vert.lt (English), under "Regarding price of the service of access to interconnection lines"[2].

- Security and reliability regulation

- Article 59(1)(m) of Directive (EU) 2019/944: Network security and reliability rules

Under the Law on Energy and LE, NERC sets and monitors the requirements for reliability and quality of service in electricity transfer. In the year 2021 NERC has evaluated the actual transmission reliability performance of TSO AB "Litgrid" and DSO AB "Energijos skirstymo operatorius" for the previous regulatory period (2016-2020) and for the new regulatory period of 2022-2026, NERC has set a minimum level of transmission reliability based on the average of the actual transmission reliability indicators, with an improvement target to be set after taking into account the impact on transmission reliability of the investments planned during the regulatory period in the reconstruction and modernization of the electricity network. This requirement to set an improvement target is foreseen in the 2021 amendments to the Electricity Transfer Reliability and Quality of Service Requirements.

For the calculation of the minimum levels of the transmission reliability indicators for the future regulatory period of 2022-2026, all transfer outages are considered, without distinguishing them by cause (unlike in previous years).

The reliability and quality of service indicators and their minimum levels are calculated separately for the electricity transmission system and the distribution network (see figures below). The lower the value of the indicator, the better the level of reliability of the electricity transfer.

Reliability of electricity transfer through transmission networks is measured by two indicators:
- *The amount of energy not supplied (hereinafter - ENS);*
- *Average interruption time (hereinafter - AIT).*

[2] https://www.NERC.lt/en/Pages/regarding-price-of-the-service-of-access-to-interconnection-lines.aspx

Figure 4. ENS and the minimum level for this indicator, MWh

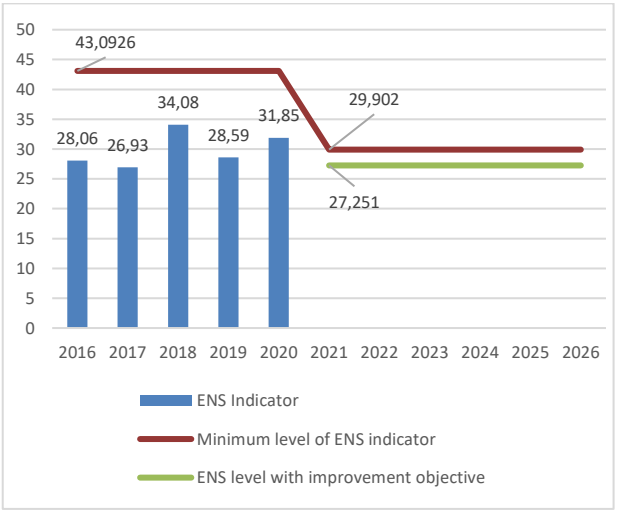
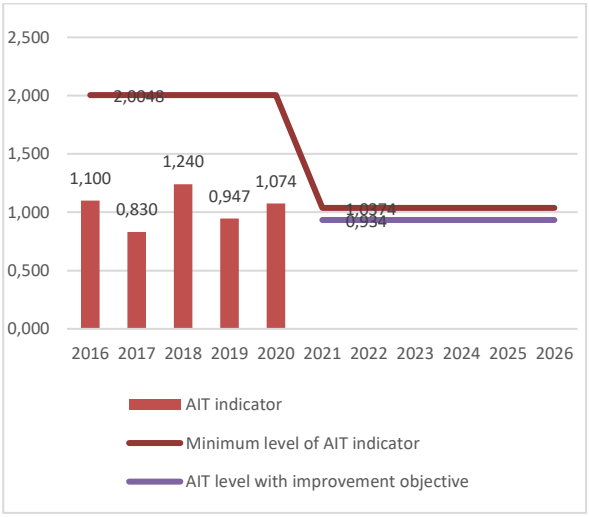


Figure 5. AIT and the minimum level for this indicator, min.



Source - NERC.

Looking at the data for the previous regulatory period, it has been determined that the TSO exceeded the ENS and AIT indicators in 2019, with the ENS indicator exceeding the minimum level 5 times and the AIT indicator exceeding the minimum level 4 times, due to the exceptional event that occurred in July 2019, which led to a disruption and interruption of power supply to a significant number of customers.

For the new regulatory period, the reliability indicators set by NERC require TSOs to ensure that the technical quality of service is better than or equal to the minimum requirements, i.e., the average duration of power outages for customers should not exceed 0.934 minutes (with an improvement target of 8.9%), and the amount of electricity not transmitted should not exceed 27.251 MWh (with an improvement target of 10%). Compared to the minimum level set for the 2016-2020 regulatory period, the actual average of quality indicators for the 2022-2026 regulatory period improves by 31% in the case of ENS and 48% in the case of AIT.

Reliability of electricity transmission through distribution networks is measured by two indicators:

- *The System Average Interruption Duration Index (hereinafter - SAIDI);*
- *The System Average Interruption Frequency Index (hereinafter - SAIFI)*

Figure 6. SAIDI and the minimum level of this indicator, min. per customer

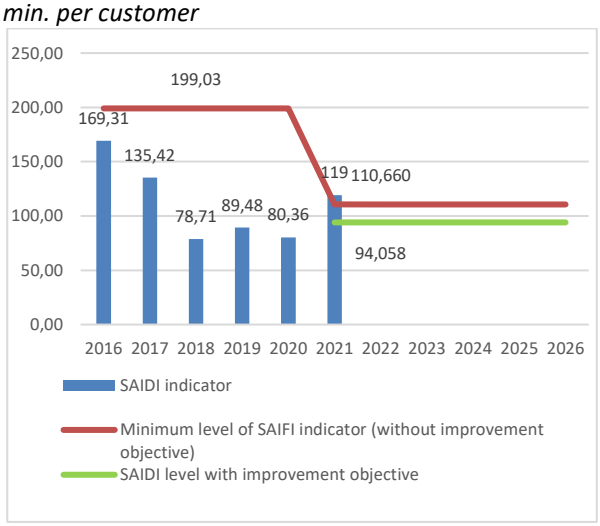
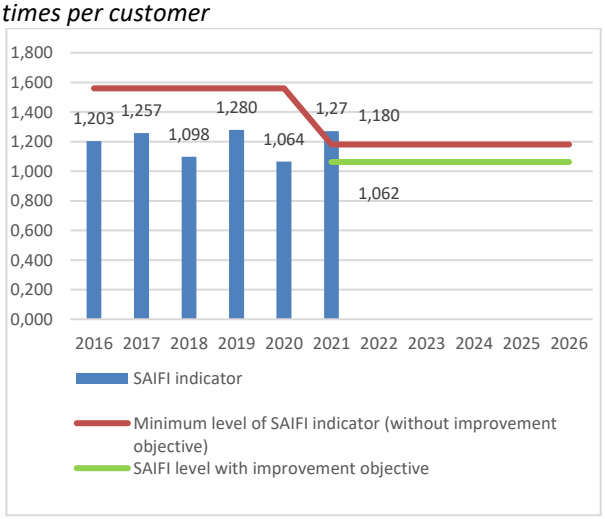


Figure 7. SAIFI and the minimum level of this indicator, times per customer



Source - NERC.

Looking at data from the previous regulatory period, it was found that the DSO exceeded the SAIFI target by 13% in 2019, due to an increase in the number of cable faults, as well as an increase in the number of overhead line breaches due to vegetation impacts, and an increase in the proportion of undetermined disconnection causes.

For the new regulatory period, the reliability indicators set by NERC require TSOs to ensure that the technical quality of service will be better than or equal to the minimum requirements, i. e. the average duration of interruptions to customers (SAIDI) should not be longer than 94.058 minutes (with a 15 % improvement target) per year, and the average number of outages per customer (SAIFI) due to the fault of a DSO should not be more than 1.062 times (with a 10 % improvement target).

The requirements approved by NERC also set out **quality indicators** for electricity transmission and distribution services. The minimum level of quality indicators must be at least 95% each calendar year. The following indicators are set for distribution service providers:

- *the percentage of customers connected on time (within 25 calendar days of payment of the connection fee), assessing on a per customer basis;*
- *the percentage of electricity transfer renewed on time (within 2 working days) to customers who have paid their arrears during the reporting period;*
- *the percentage of information provided to the customer about a scheduled interruption at the specified time (at least 24 hours in advance) during the reporting period;*
- *the percentage of scheduled interruption work completed within the time period notified to the customer during the reporting period;*
- *the percentage of customer faults resolved on time (within 5 working days) during the reporting period;*
- *on time (III rel. cat. - within 24 hours, II - within 2.5 hours, I - within the time required for automatic switchover) restoration of electricity supply to customers of reliability categories I, II and III after an unplanned interruption, as a percentage of the total number of hours in the reporting period;*
- *the percentage of complaints from customers and network users that are dealt with in a timely manner (within 20 working days) during the reporting period.*

Only one indicator for quality of services is set for the TSO - the percentage of complaints dealt with on time.

- Article 59(10) of Directive (EU) 2019/944: Congestion management

NERC shall prepare and publish a report of congestion income for the year 2021 (hereinafter - the Report) in accordance with Article 19(5) of the Electricity Regulation, which shall also be submitted to ACER. The report is based on data provided by the TSO:

1. Pursuant to Article 19(5)(a) of the Electricity Regulation, information is provided on congestion income generated during the 12 months preceding 31 December of the previous calendar year, i.e., during the period of 2021-01-01–2021-12-31

Table 5. *Congestion income generated during the period of 2021-01-01– 2021-12-31*

Interconnection	Income generated, EUR
Lithuania-Latvia	7 809 469
Lithuania-Poland	13 803 508
Lithuania-Sweden	28 498 971
Total	**50 111 948**

Source - NERC.

2. In accordance with Article 19(5)(b) of the Electricity Regulation, information is provided on how congestion income has been used in accordance with Article 19(2) of the Electricity Regulation, including specific projects and the amount of income transferred to a separate account line. In the data, AB "Litgrid" indicated that the income was used in accordance with Article 19(2) (a) and (b) of the Electricity Regulation. Table 2 provides detailed information on the use of the generated income during the period of 2021-01-01 – 2021-12-31.

Table 6. *Use of congestion income generated during the period of 2021-01-01 – 2021-12-31.*

	Used Income, EUR
Ensuring the utilisation of allocated capacity in accordance with Article 19(2)(a) of the Regulation	**590,077**
Network investments under Article 19(2)(b) of the Regulation:	**2 954 135**
Stage I of the LitPol Link extension*	-1 754 178
Construction of 330 kV EPL Kruonis PSP-Bitėnai	244,703
Construction of the HARMONY link	3 639 811
Construction of 330 kV ETL Darbėnai–Bitėnai	226,149
Construction of a new 330 kV ETL Vilnius-Neris	227,445
Installation of new synchronous condensers in Lithuanian LPS	310,896
Construction of 330 kV switchyard "Mūša"	59 308
Remaining income transferred to a separate internal account line	**46 567 736**
Total	**50 111 948**

* Repayment of congestion funds after European Union support.

Source - NERC.

3. In accordance with Article 19(5)(c) of the Electricity Regulation, information on the amount used to calculate network tariffs must be provided.
   Congestion income was not used when setting the transmission service price cap for 2022.

4. In accordance with Article 19(5)(d) of the Electricity Regulation, information shall be provided on the verification that the amount referred to in point (c) has been used in accordance with the Electricity Regulation and the methodology developed pursuant to Article 19(3) and (4) of the Electricity Regulation.
   Congestion income has not been used in accordance with Article 19(5)(c) of the Electricity Regulation, therefore, no further assessment is being carried out in accordance with Article 19(5)(d) of the Electricity Regulation.

5. The balance of accumulated congestion income (2021-12-31) - EUR 60 449 834- was added to the account of the UAB "EPSO-G" group (Table 3).

Table 7. *The use of accumulated congestion income*

	Used Income, EUR
Accumulated income at the beginning of the period	62 519 293
Accumulated income at the end of the period	109 087 029
Accumulated balance at the end of the period**	104 044 180
Accumulated congestion funds added to the account of UAB "EPSO-G" group – temporarily used to finance the activities of the Undertaking	**60 449 834**

** The difference between the balance and accumulated income is due to a mismatch between income (accounts) and revenue/expenses.

- Monitoring of the balance of demand and supply

- Article 59(1)(v) of Directive (EU) 2019/944: Investments in generation and storage capacities related to the security of supply

The Elektrėnai complex B-8 is scheduled for major overhaul repairs. The completion of the overhaul repairs of the 300 MW B-8 will extend its operating capacity to 50,000 hours and ensure continuous power generation for at least 90 days. All overhaul works are scheduled to be completed in January-June 2023, thus ensuring adequate readiness for the synchronisation of LPS with the continental European grid and the accessibility of B-8 in the event of long-term power generation needs.

In 2021, with undergoing synchronisation and development of renewable generation in Lithuania, the conditions are favourable for the deployment of battery storage systems and the operation of a reliable electricity transmission grid. In September 2021, TSO AB "Litgrid" connected the first 1 MW battery storage unit to the Lithuanian electricity transmission network. This project is an important part of the synchronisation of the network with continental Europe. The battery is the first pilot project of its kind in the Baltic States, during which the TSO AB "Litgrid" will test the capabilities of the device and its operation in the transmission network.

A 200 MW storage project is planned to be installed during 2022. UAB "Energy cells" (a company managed by "EPSO-G"), which has been appointed as the operator of the storage facilities, will install four energy storage plants in Lithuania in 2022, each with 50 MW and 50 MWh, with a total combined power reaching of 200 MW and 200 MWh. These facilities will provide an isolated standby service to ensure reliable and stable operation of Lithuania's electricity system until synchronization with the continental European network and, in the forecast, for the integration of rapidly growing renewable energy sources. The batteries will be installed in transformer substations in Vilnius, Šiauliai, Alytus and Utena.

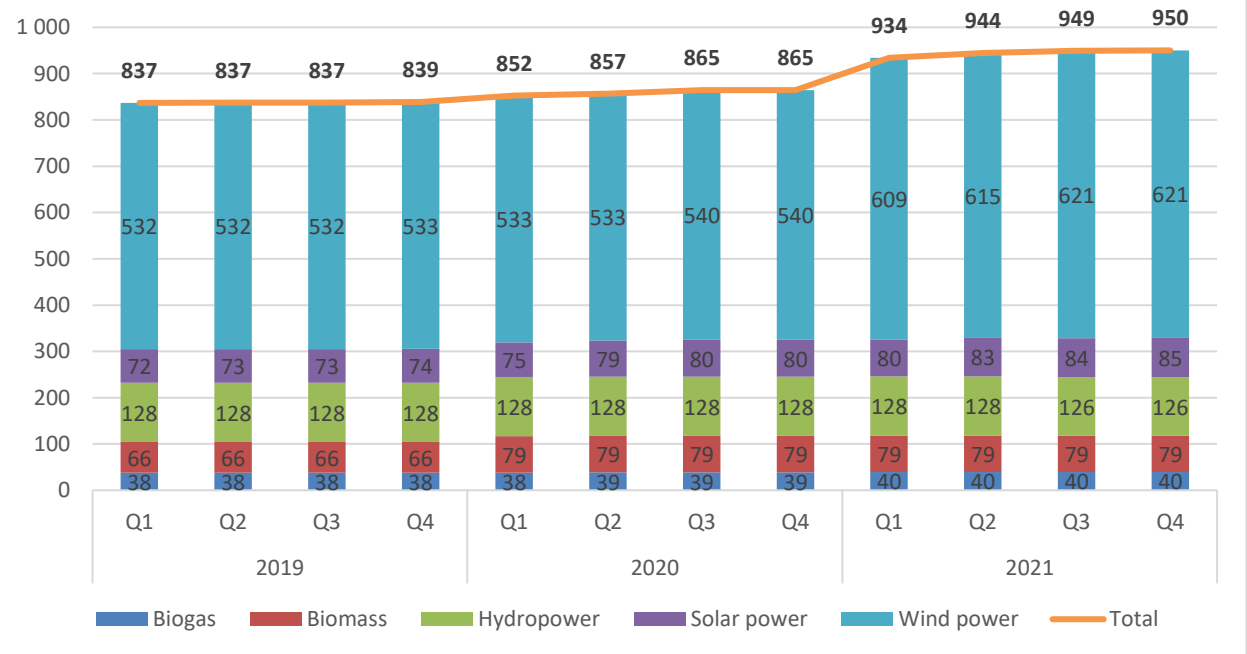
The high-capacity energy storage system will be installed and serviced by a consortium of "Siemens Energy" and "Fluence". The companies implementing the project on a joint basis have won an international tender launched by "Energy Cells" for the installation of the system and the procurement of energy storage technologies. Based on a signed agreement of 109 million euros, "Siemens Energy" and "Fluence" will design, manufacture and connect the energy storage system to the electricity transmission system, as well as provide after-sales service and maintenance for 15 years after the system is switched on.

In accordance with the provisions of the LE, the NERC monitors and evaluates the implementation of the network development plan. Every year, AB "Litgrid" submits 10-year electricity network investment plans, which assess scenarios for the development of new generation sources. The 2021 plan forecasts an installed capacity of 7016 MW of generating sources by 2030. Approximately 70.6% of this share would come from power plants using renewable energy sources (hereinafter – RES).

NERC monitors investments in generation capacity by issuing permits for the development of electricity generation capacity and for the generation of electricity in accordance with the provisions of the LE to persons other than those whose generation facilities have an installed capacity of more than 30 kW and whose generation installations are used solely for personal and household needs, without supplying electricity to the electricity networks, and persons intending to generate electricity from renewable sources in electricity generation installations of an installed capacity not exceeding 30 kW.

In 2021, as in 2020, the largest market shares in the overall structure of the installed capacity of renewable energy sources are accounted for by wind power plants – 65.4%, hydroelectric power plants – 13.3%, solar[3] - 8.9%, biomass – 8.3%, biogas – 4.2%.

Figure 8. RES structure by installed electrical capacity 2019-2021, MW

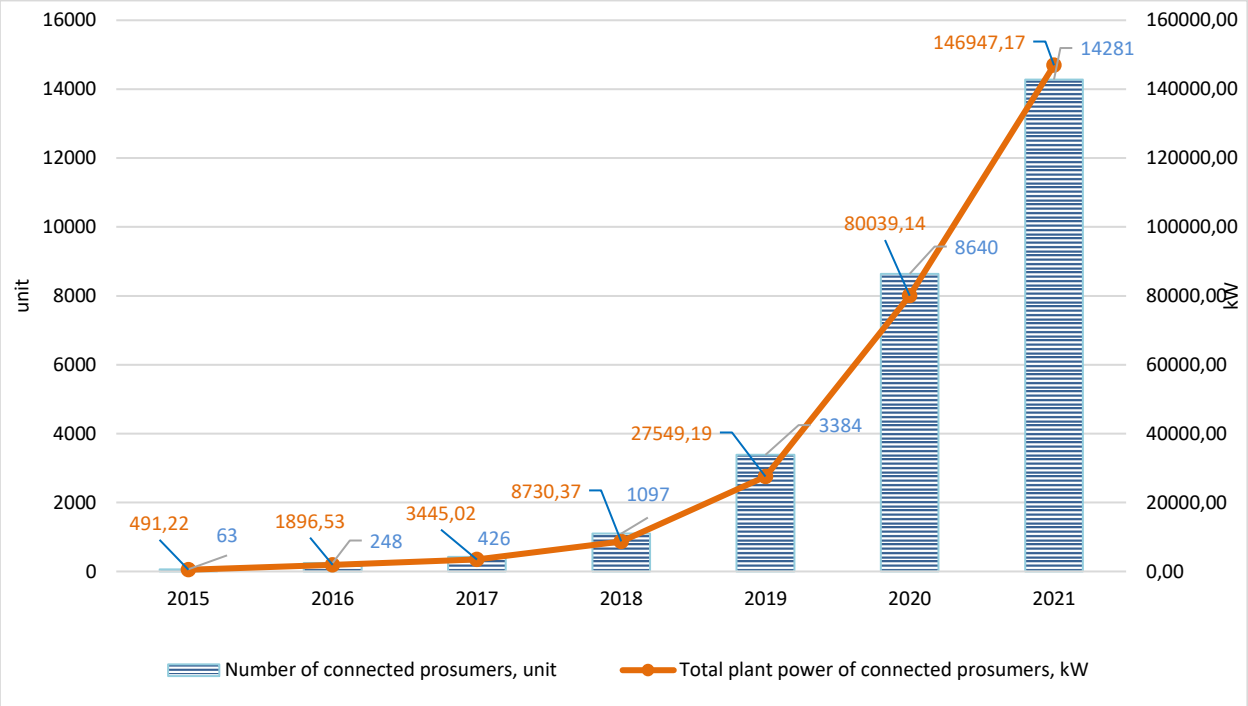


Source – NERC.

[3] Excluding solar power plants operated by prosumers.

In 2021, the share of the installed capacity of RES power plants (excluding prosumers) in the total installed capacity balance was 25.9%.
In accordance with the provisions of the Law on Energy from Renewable Sources, the electricity network operator provides monthly information to the NERC on the connection conditions issued to prosumers and persons seeking to become prosumers and planning to construct or install power plants using renewable resources, which do not require a permit to develop their electricity generation capacity in accordance with the procedure laid down in the LE.

Figure 9. Number of prosumers connected to the distribution networks and total plant power



Source – NERC.

In 2021, the number of prosumers increased by 5,641 with an installed capacity of 66,908 MW (in 2020, the number of prosumers increased by 5,256, with an installed capacity of 52,490 MW). At the end of 2021, the total number of prosumers was 14,281 with an installed capacity of 146,947 MW (8,640 prosumers with an installed capacity of 80,039 MW at the end of 2020).

- Cross-border issues

- Article 59(1)(w) of Directive (EU) 2019/944: Technical cooperation between transmission system operators of the EU and third countries

In 2021, the existing level of technical cooperation with third country operators, which is essential to ensure the reliable operation of LPS and the quality of electricity, and to prepare for desynchronization from the UPS/IPS system in a timely and appropriate manner, was maintained.

The issues of desynchronization from UPS/IPS are discussed in the BRELL (Belarus, Russia, Estonia, Lithuania, Latvia) Committee and in the Operational Planning and Management Working Group, where the TSOs present information on the current situation of the systems development, following a formal request and proposal by the European Commission. The Committee meets 2 times a year and the working groups meet as required.

The NERC, after performing an analysis of the capacity and allocation of electricity cross-system interconnections with third countries, has found that the physical flow of electricity generated in Belarus to Lithuania increased significantly at the beginning of 2021, after the start of commercial operation of the Belarusian nuclear power plant.

On 13 September 2021, NERC has approved the Methodology on Cross-Zonal Capacity Calculation and Allocation with Third Countries developed by the TSO AB "Litgrid". The methodology ensured that the Lithuania-Belarus interconnector would not be used to trade electricity produced in Belarus, but would allow the technical flow required for system reliability and security.

On 31 January 2022, NERC updated the Methodology on Cross-Zonal Capacity Calculation and Allocation with Third Countries, in which has detailed the technical traffic volumes according to the actual network situation and line disconnections, updating the distribution of flows daily. As of 3 March 2022, due to the extreme geopolitical situation, the Baltic operators have agreed to limit trading from third countries to 300 MW (150 MW via the Lithuania-Russia and 150 MW via the Latvia-Russia interconnectors) in order to ensure the frequency stability of the Baltic energy systems. The suspension of Russian electricity trading by the electricity exchange operator Nord Pool in May 2022 has halted imports of Russian electricity into Lithuania, while the country's needs are met by domestic power plants and imports via interconnectors with Sweden, Poland and Latvia.

- Implementation of network codes and guidelines

In 2021, NERC also contributed to other important decisions related to European Union regulations (network codes and guidelines) by adopting 4 pieces of legislation individually or at Baltic States level, and helping to pass 4 more pieces of legislation through its involvement in ACER. In addition, NERC has adopted 3 other documents which NERC had the obligation to prepare due to national legislation and have similar themes to wholesale market issues regulated by network codes or EU regulations. All of the above documents are presented in more detail in this section.

- Article 59(7) of Directive (EU) 2019/944: Network codes

- Demand connection
- Requirements for generators
- High-voltage direct current connections

When establishing the requirements of network codes for grid connection, the NERC has already approved the General Technical Requirements for the Grid Connection. The NERC regularly monitors the implementation of these requirements and advises market participants on these issues. The general technical requirements will ensure fair conditions of competition for all market participants, as well as security of the electricity system while integrating electricity produced from renewable sources, and will also facilitate the trading of electricity throughout the European Union by adopting effective measures.

- Operation

ACER approved changes to the European methodology for coordinating operational security analysis.

During December 2020, The European Network of Transmission System Operators for Electricity (ENTSO-E), representing European transmission system operators, has submitted amendments to the methodology for coordinating operational security analysis (CSAM), which has been approved by ACER in the past and is in force. The changes made in 2021 concern the inclusion of remedial actions in the individual network models, the methodologies for coordination and cost allocation of important cross-zonal network elements, and cross-zonal remedial actions in intersecting zones (Inter-CCR). ACER has reviewed and approved the changes to the methodology proposed by the TSOs and submitted a revised version of the CSAM in accordance with Article 75 of Commission Regulation (EU) 2017/1485 establishing a guideline on electricity transmission system operation.

- Resolution of accidents and restoring operation

NERC approved the Transmission System Operator's methodology for the suspension and restoration of market activity and settlement.

This methodology will harmonize requirements with other EU countries on technical and organizational measures to help prevent the spread or aggravation of incidents on the system and to avoid disruptions and the propagation of a total power system accident to other systems.

The document sets out the criteria and procedures for the suspension of market activities, the procedures for the restoration of activities to be followed by the TSO and the parties responsible for the balance, the principles and procedures for the communication about suspension or restoration of the market activity to be followed by each party involved in the restoration of the market, and the rules on the settlement of imbalances, balancing capacity and balancing energy for the periods of accounting for the imbalance for which the market activity was suspended. Market activities such as the provision of cross-zonal capacity allocation and the obligation of the party responsible for the balance to provide balance schedules will be stopped.

It is also important that the suspension only takes place when the criteria set out in the rules are met and the system is in an emergency, *black-out state* or restoration state.

- Allocation of forward capacity

On 4 October 2021 ACER approved a decision on securing Long Term Transmission Rights (LTTR) and cost sharing of compensation in the EU. The Decision establishes two rules on cost sharing between TSOs: the first principle regulates the costs incurred for long-term cross-zonal capacity curtailments before the day-ahead firmness deadline, and the second principle regulates the costs incurred for the reimbursement of long-term transmission rights after the reallocation of cross-zonal capacity to a single day-ahead price coupling mechanism. The principles will be used in conjunction with regional methodologies for calculating capacity.

NERC, together with the Finnish, Latvian and Estonian regulators, has prepared an assessment entitled "Analysis of Electricity Forward Market Hedging Opportunities in Finnish, Estonian,

Latvian and Lithuanian Bidding Zones´ Borders" to determine whether the forward electricity market provides sufficient hedging potential for the electricity price spread risk.

The report presents an analysis of the electricity price risk hedging products offered by the NASDAQ Financial Instruments Exchange and calculates various statistical performance measures for these products. The Baltic Sea Region regulators have agreed that the most appropriate new electricity price hedging product to be used by Lithuanian market participants would be the introduction of long-term financial transmission rights between Finland and Estonia. The implementation of this product is planned for 2023 onwards, to be provided by the Estonian and Finnish TSOs.

ACER also published on 29 November 2021 a decision on harmonizing the allocation of long-term transmission rights for use in electricity-related derivatives to help market participants hedge their exposure to volatility in wholesale electricity prices. It should be noted that such products are not currently marketed in Lithuania.

- Capacity allocation and congestion management

ACER has adopted a decision dividing the countries of the European Union into different regions, where harmonized rules on the calculation and allocation of cross-zonal capacity apply. Lithuania remains part of the Baltic capacity calculation region, which also includes Estonia, Finland, Latvia, Poland and Sweden.

ACER has also approved changes to the methodology for congestion income distribution to the European electricity markets. The approved methodology ensures a transparent and non-discriminatory distribution of congestion income between TSOs. Congestion income is generated due to price differences in the electricity wholesale markets in different electricity trading zones of the European Union countries adjacent to the Lithuanian electricity trading zone. In Lithuania, congestion income is managed by the TSO AB "Litgrid".

- Electricity balancing

It is important to mention the three documents adopted in 2021 related to the functioning of balancing markets.

The first is the *ACER decision on a market-based methodology for the allocation of cross-zonal capacity in the Baltic region for balancing capacity exchanges*. In February 2021, the national regulators in the Baltic region submitted a request to ACER for a decision on the approval of the relevant methodology.

Efficient allocation of cross-zonal capacity will contribute to the creation of a cross-border balancing capacity market. This methodology will be used to ensure efficient and transparent allocation of cross-border capacity to the balancing market or reserve sharing, reducing the amount of reserves needed to be maintained in each country and reducing operators' balancing costs – and reducing prices for final electricity customers.

The second important document is the Standard Terms and Conditions of the Imbalance Purchase and Sale Agreement updated by AB "Litgrid" and coordinated with NERC. In light of the amendments to this document and the requirements of Commission Regulation (EU) 2017/2195

establishing a guideline on electricity balancing, NERC has repealed the description of the procedure for regulating the price of balancing energy.

The following main changes have been made:

- *Changes to the way the imbalance price is calculated. This price is payable by the party responsible for the balance against a deviation from the planned consumption or production schedule.*
- *It provides that the operator has the right to suspend market activities in accordance with the Rules on Suspension and Restoration of Market Activities and Settlement of Suspended Market Activities approved by NERC.*
- *The document implements ACER's decision to harmonize the principles for setting the imbalance charge.*

The updated regime should provide greater incentives for market participants to avoid imbalances and ensure a consistent and more harmonized application of the imbalance settlement rules, while at the same time contributing to improving the efficiency of the electricity system for the benefit of end-users.

At the European platform for the exchange of balancing energy from frequency restoration reserves – according to Commission Regulation (EU) 2017/2195 of 23 November 2017 establishing a guideline for electricity balancing it is foreseen that, unless an exemption is granted, all TSOs have until 24 July 2022 to connect to the **European Manually Activated Reserves Initiative** (hereinafter – **MARI platform**). In accordance with the provisions of the Regulation, AB "Litgrid", together with the transmission system operators of Latvia and Estonia, prepared a request to the national regulatory authorities of the Baltic States to allow a deviation from the scheduled date of connection to MARI, and provided objective reasons for the request.

The Baltic electricity systems receive most of their balancing energy from the Nordic TSOs. Joining the MARI platform at the same time as the Nordic TSOs is important for market participants in order to continue the process of cooperation to ensure a liquid balancing market and secure and cost-effective balancing of the Baltic electricity system. In order to efficiently exploit the MARI market and not to have several different balancing regimes in the region, the connection of the Baltic States to the MARI platform needs to be coordinated with the preparation and connection of the neighbouring countries to the MARI platform, especially the Nordic countries. Nordic TSOs are expected to join the MARI platform in Q3 2023 - Q2 2024. Following this request, NERC granted an exemption for the Baltic TSOs to join the MARI platform together with the Nordic TSOs, but no later than 24 July 2024.

The MARI platform will allow EU Member States to share the resources used by their transmission system operators to ensure a balance between electricity generation and consumption. Connecting to the MARI platform will increase system reliability, improve the efficiency of operators and market participants, and create opportunities to integrate more generation from renewable sources. Connecting to common European market platforms and participating in common system management and market mechanisms is also one of the prerequisites for the Baltic countries to synchronize with the continental European network (CEN).

3.2. Promoting competition and market functioning

3.2.1. Wholesale market

- Monitoring price levels, levels of transparency, market opening, competition level and efficiency

- Article 59(1)(n) and (o) of Directive (EU) 2019/944

In order to ensure that the regulator is able to ascertain the reasonableness of the costs of legal entities for the purposes of attributing them to the regulated activities, from 2019 onwards, the auditors are checking the regulatory activity reports of legal entities submitted to NERC in accordance with the technical task approved by the NERC, i.e., specific requirements. The technical task may be revised annually to adjust the requirements set out, or it will remain in force. In 2021, NERC has revised the technical task for the verification of regulatory activity reports, i.e., the requirements for the verification/audit of regulated entities' activity reports for 2021 are subject to revised requirements compared to previous years.

In order to ease the administrative burden, electricity and natural gas DSO's serving fewer than 100,000 customers, legal entities operating in the liquefied petroleum gas (LPG) sector, as well as electricity legal entities recognized as having significant market power for the provision of a reserve replacement service and/or an isolated operation service of the electricity system, the price of which is subject to state regulation and which meet the other conditions laid down by NERC, may choose which technical task they wish to use to carry out the verification of regulatory activity reports for 2021, either under the technical task applicable to all regulated legal entities or under the separate technical task for the verification of regulatory activity reports of electricity and natural gas legal entities approved in September 2020.

In the electricity sector, NERC applies price regulation to 11 legal entities. In 2021 for the new regulatory period, NERC set price caps for two infrastructure companies (AB "Energijos skirstymo operatorius", AB "Litgrid") and adjusted price caps for 4 infrastructure companies (AB "Achema", AB "Lifosa", UAB "Dainavos Elektra", AB "Akmenės cementas"), and 1 supply company (UAB "Ignitis"). It also set the prices of reserve power provision and isolated operation of the electricity system for the entities providing these services (AB "Achema", AB "Ignitis gamyba", AB "Panevėžio energija", AB "Orlen Lietuva", UAB "Kauno termofikacijos elektrinė").

In accordance with the provisions of the LE, NERC continuously monitors and controls the compliance of electricity market participants with the requirements of transparency, non-discrimination and competition in the electricity sector set out in the LE and other legislation, compliance with the conditions and requirements for licensed or authorized activities in the electricity sector, and the protection and defence of customers' rights and legitimate interests, including the reliability of information provided to customers. Legal entities operating on the wholesale electricity market must make public the information provided for in separate legal acts. Pursuant to the approved description of information to be made public, NERC publishes on the NERC website the list of information of electricity sector legal entities to be made publicly available [4] (hereinafter – List). In accordance with the above-mentioned description, NERC also checks each year how legal entities make the information in the List publicly available. Having

[4] https://www.regula.lt/elektra/Puslapiai/elektros-energetikos-sektoriaus-ukio-subjektu-viesai-skelbiamos-informacijos-sarasas.aspx

identified deficiencies in the information made publicly available, NERC prepares recommendations on the compliance of prices for services in the energy sector with transparency, non-discrimination and other requirements laid down by legislation. Pursuant to the provisions of the Law on Energy, these recommendations are published at least once every 5 years and submitted to the Competition Council of the Republic of Lithuania.

In order to carry out market monitoring, NERC, in accordance with the Rules on the Provision of Information by Energy, Drinking Water Supply and Wastewater Management, and Surface Wastewater Management Undertakings, approved by NERC, collects information from legal entities that require licenses, permits, certificates and/or are subject to state regulated prices. On the basis of the information provided by legal entities, in order to increase the awareness of market participants and to ensure that market participants have reliable information at their disposal, NERC regularly prepares semi-annual electricity market monitoring reports and publishes them on NERC's website[5].

The level of transparency regarding wholesale prices is monitored in accordance with REMIT. In addition, NERC has set limits on the disclosure of information that is considered to be inside information (information not to be disclosed publicly), in accordance with the Rules on the Supervision of Trading in Electricity and Natural Gas adopted by NERC[6].

Supervision of trading on the electricity market shall be carried out by analysing the behaviour of market participants, i.e., the submission of transactions, including orders to trade, the conditions under which they are entered into, the explanations given by market participants, and other circumstances, in order to ensure that wholesale electricity markets are not abused. NERC, together with ACER, in the framework of the implementation Regulation (EU) No 1227/2011 of the European Parliament and of the Council of 25 October 2011 on wholesale energy market integrity and transparency (REMIT), carried out continuous surveillance of the wholesale electricity and natural gas markets, analysis of information published on the inside information disclosure platforms[7] in the Lithuanian bidding zone (9 inadequate/inaccurate Urgent Market Messages (UMMs) were identified in the gas and electricity sector).

In 2021, 4 notifications of potential infringements of the conduct in electricity market were received through ACER's infringement notification platform. NERC does not publish further information on ongoing REMIT market studies, as their progress and interim results are confidential.

NERC also **carried out registration of market participants** (1 market participant was registered), assessment of bilateral contracts for wholesale energy products and compliance with REMIT requirements, monitoring of orders placed and transactions concluded by market participants on exchanges.

In order to create the conditions for effective competition in the electricity markets and to prevent persons from abusing their significant market power in the electricity markets, NERC conducts market studies in accordance with the Market study Rules. Accordingly, NERC shall publish and keep up-to-date on its website the market study reports, except for information

[5] https://www.NERC.lt/elektra/Puslapiai/elektros-rinkos-apzvalga/rinkos-stebesena.aspx
[6] https://www.e-tar.lt/portal/lt/legalAct/fbc3b880c84711e69dec860c1f4a5372/asr
[7] https://umm.nordpoolgroup.com/#/messages
https://umm.getbaltic.com/public-umm

which is considered confidential, and the final decisions on the results of the market study, or parts thereof, without confidential information. It should be noted that no market studies were carried out in 2021.

It should be noted that the National Committee for the Development of the Baltic Single Electricity Market meets at least once every six months, with representatives of public authorities, market participants and related associations. They exchange relevant information and address issues, clarifying the causes and identifying the steps to be taken for the efficient functioning and development of the electricity market.

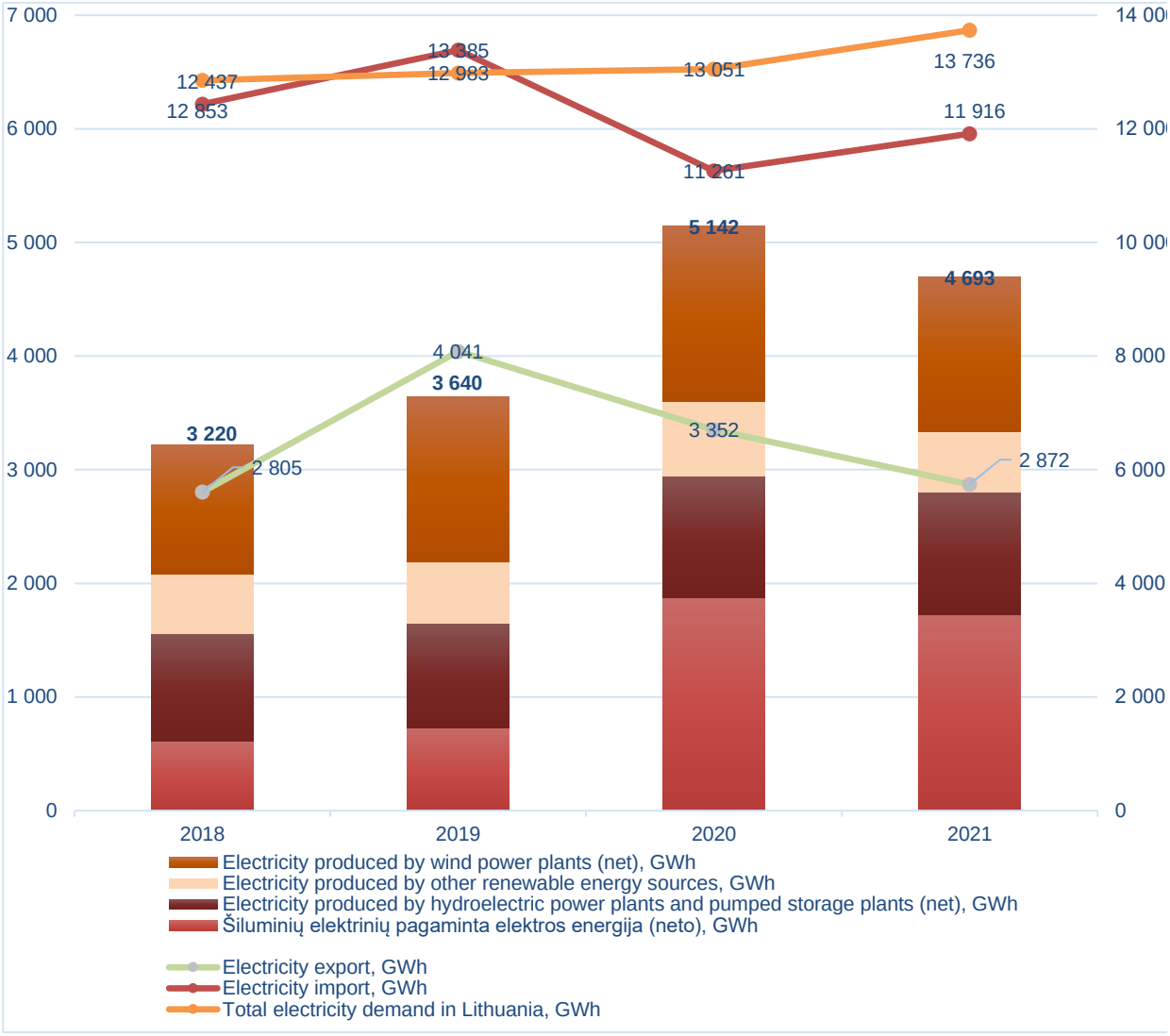
NERC is actively involved in the development of a common regional electricity market, including the development and implementation of various common legislation.

Harmonization of rules between different EU countries should have a significant impact on the promotion of competition and the functioning of the market. Relevant measures implemented in relation to the implementation of the network codes are listed in the previous section - "Implementation of network codes and guidelines".

As in previous years, NERC published on its website all information related to its activities, such as news, various clarifications, statistical information, information on ongoing meetings, materials from public meetings, etc., in order to increase transparency, market participants' and customers' awareness.

Information on the country's total electricity demand, the amount of electricity produced (net) in the country, and the amount of electricity imported and exported is presented in Figure 10 below.

Figure 10. Electricity production, imports, exports and total electricity demand in the country 2018-2021



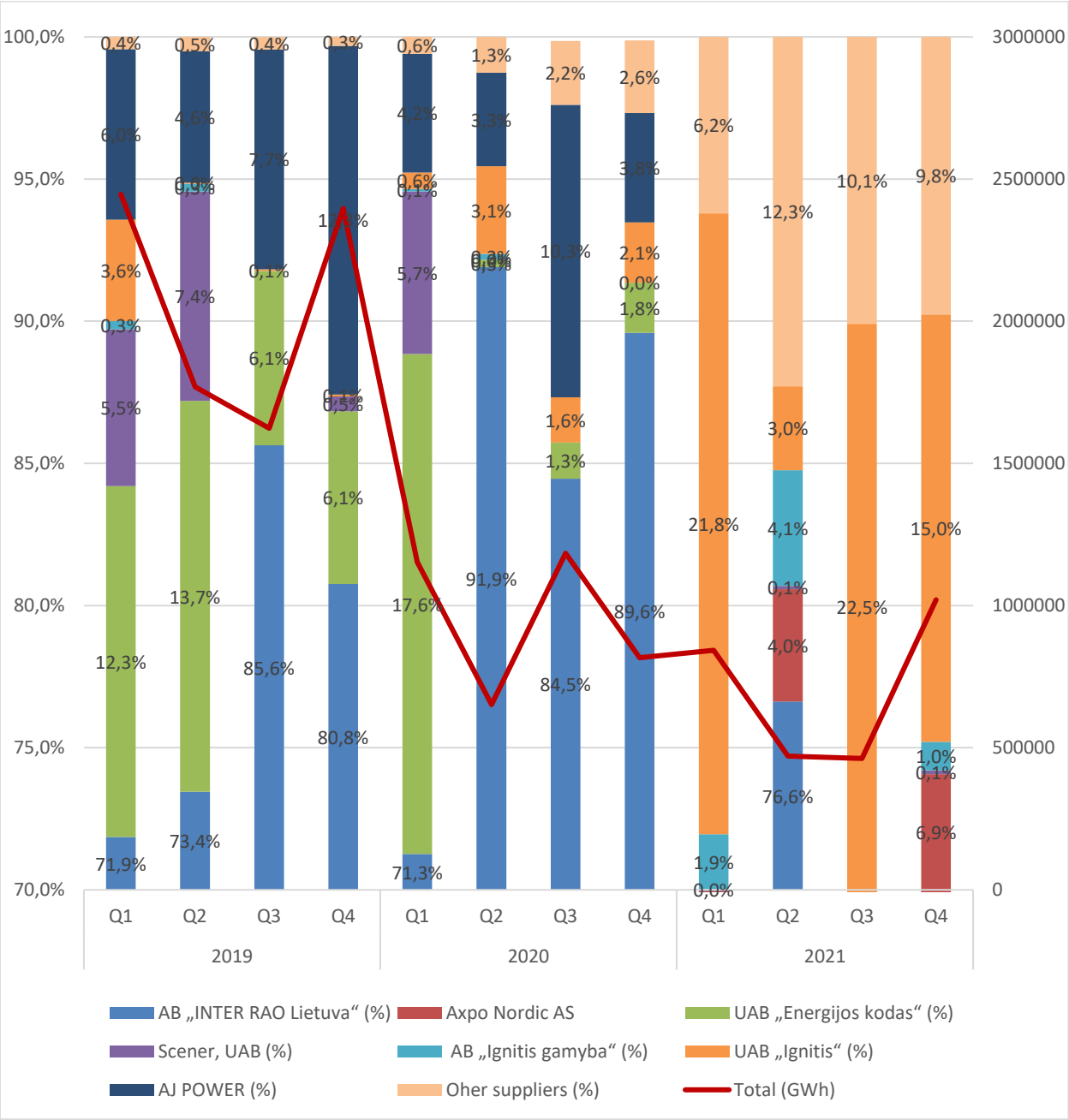
Source - NERC.

In 2021, the electricity price on the Lithuanian market was EUR 90.45/MWh. Imports account for 86.7% of the country's total electricity demand. For more information, see www.nordpoolgroup.com.

In 2021, 19 suppliers sold electricity on the power exchange and 15 suppliers bought electricity.

In 2021, there were 3 main suppliers in the wholesale electricity market: AB "INTER RAO Lietuva", UAB "Ignitis" and Axpo Nordic AS. More than 66% of all electricity sales on the power exchange in 2021 were accounted for by electricity sold by AB "INTER RAO Lietuva". The combined result of AB "INTER RAO Lietuva", UAB "Ignitis" and Axpo Nordic AS amounted to 88% of the total electricity sales on the power exchange in 2021.

Figure 11. Market structure of electricity sales on the electricity exchange by company, %, 2019-2021

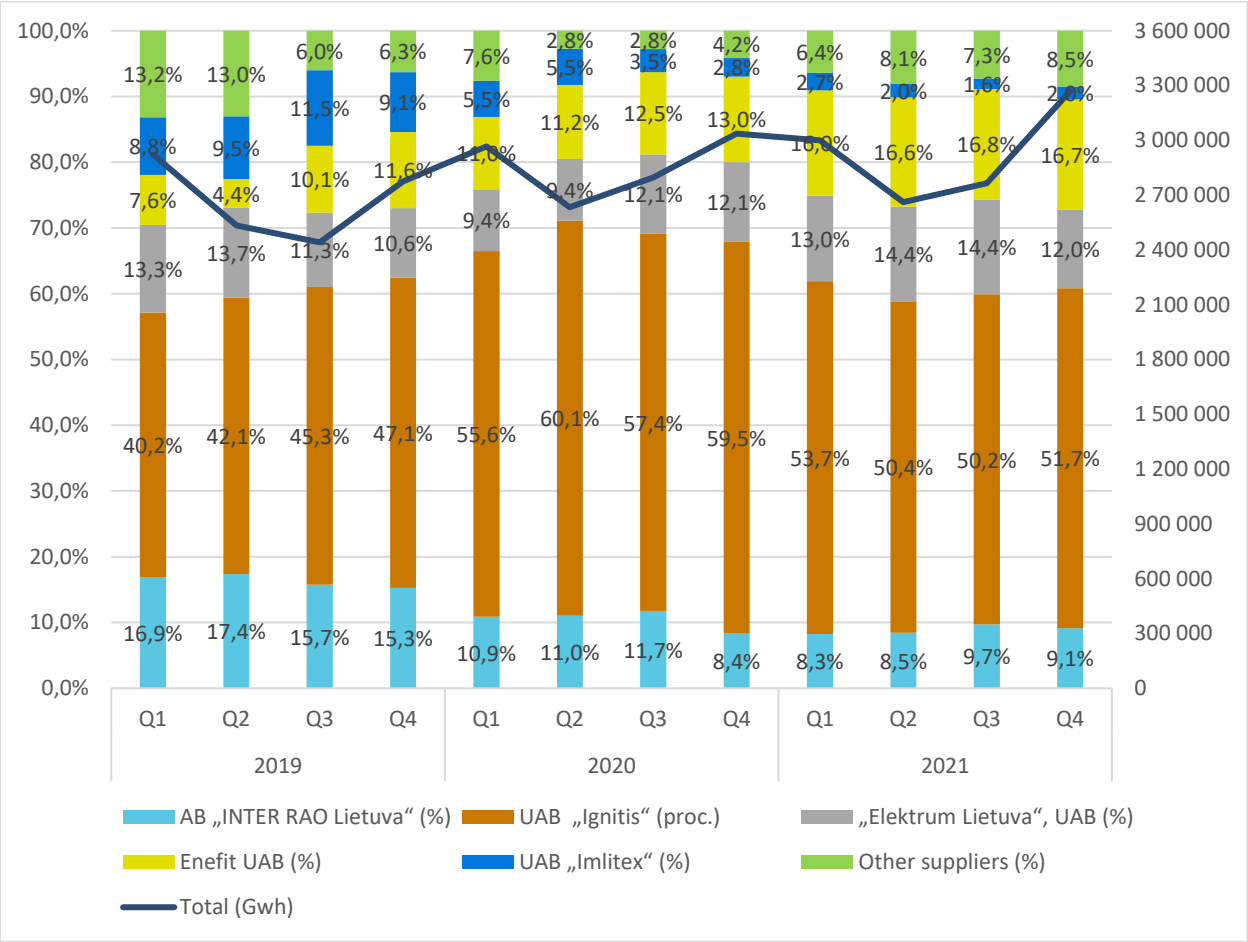


Source - NERC.

In 2021, more than 51% of all electricity purchases from independent suppliers on the electricity exchange were made by UAB “Ignitis”[8].

[8] Energijos Tiekimas UAB was merged with "Lietuvos energijos Tiekimas" UAB. In 2019, this company changed its name to "Ignitis" UAB

Figure 12. Market structure of electricity purchases on the electricity exchange by independent suppliers, %, 2019-2021



Source - NERC.

3.2.2. Retail market

- Monitoring price levels, transparency levels, effectiveness of market opening and competition

- Article 59(1)(o) of Directive (EU) 2019/944: opening the market and competition

The retail market is monitored and controlled in a broadly analogous way along the same lines and principles as those set out in Section 3.2.1.

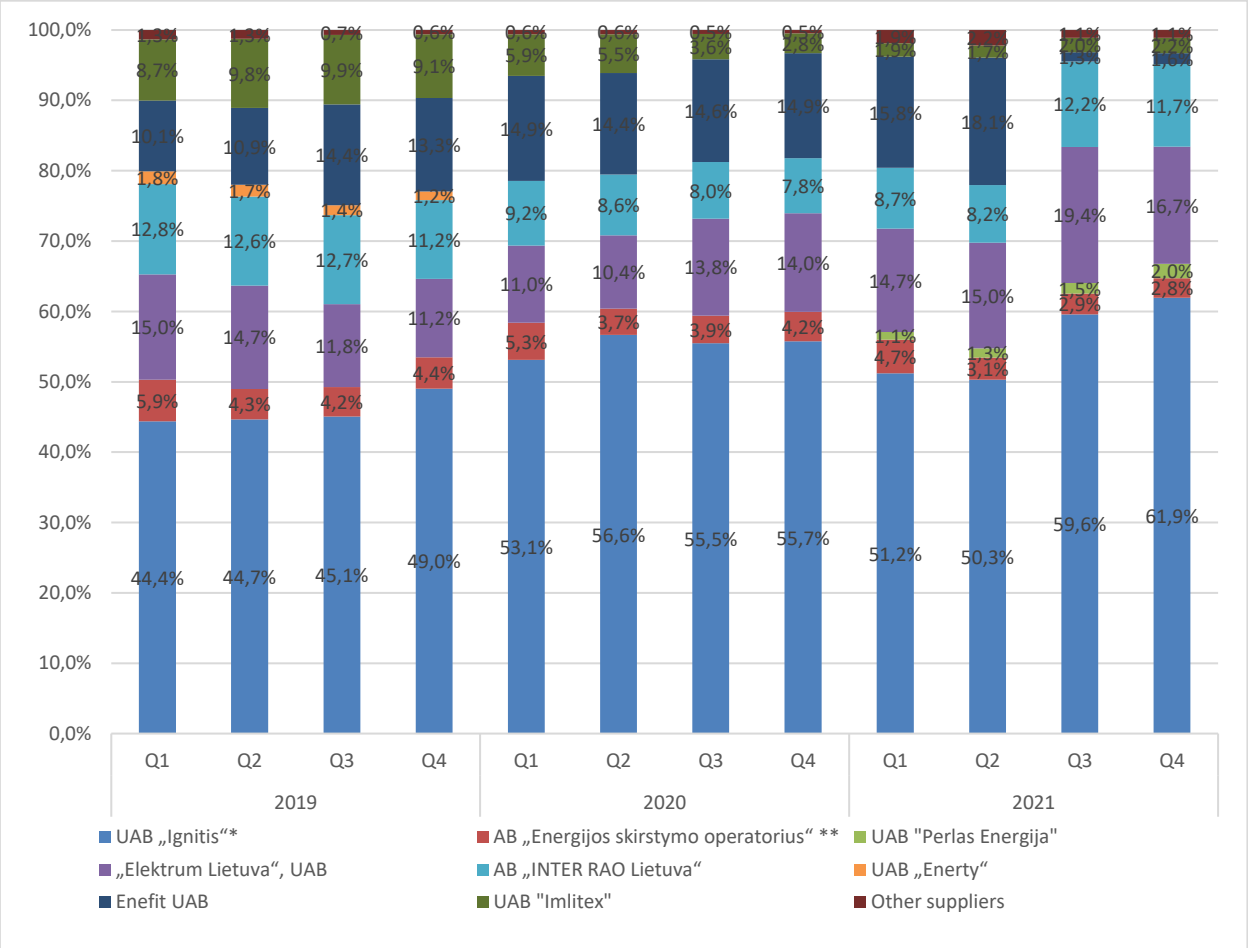
- *Since 2013, all commercial customers have been paying for their electricity at market prices and, if necessary, are provided with a guaranteed supply of electricity for a maximum of 6 months. Household customers also have the right to choose an independent electricity supplier and to buy electricity on the market or under bilateral contracts.*

The number of customers in the country in 2021 compared to 2020 increased from 1,799,025 to 1,823,744, of which 165,489 are non-household customers. Consumption by non-household customers purchasing electricity at public prices remained unchanged at 0.097 TWh over 2021. Consumption by household customers purchasing electricity at public prices amounted to 2.0 TWh in 2021, down from 2.9 TWh in 2020. Taking into account Stage II of the liberalization of the

electricity market for household customers, which started in 2020 and required households consuming at least 1 000 kW per year to choose an independent electricity supplier, the number of household customers purchasing electricity on the market at contractual prices in 2021 has increased from 209,489 to 590,463, compared to the previous year.

4 largest independent electricity suppliers in the independent retail supply market: UAB "Ignitis", UAB "Elektrum Lietuva", AB "INTER RAO Lietuva", UAB "Enefit". Their share of the retail market was 91.5% in terms of electricity supply volume. Among the largest independent electricity suppliers, UAB "Elektrum Lietuva" has the highest market share growth in 2021 compared to 2020.

Figure 13. Structure of retail market sales by supplier, %, 2019-2021



** Public electricity supply. Until 1 October 2018, the public electricity supply activities were carried out by AB "Energijos skirstymo operatorius". UAB "Ignitis" is active in public electricity supply and independent electricity supply in 2020.*

*** Guaranteed power supply.*

Source - NERC.

For the first half of the year of 2022, the average electricity price on the Lithuanian market was 6.214 ct/kWh. The average annual retail price of the public supplier for a typical household customer is 6.918 ct/kWh (purchase of electricity and public supply margin), while the price of the use of electricity network or transmission service is 5,142 ct/kWh.

In 2022 public electricity price for household customers purchasing electricity from the medium-voltage grid is 10.410 ct/kWh (excluding VAT), or 1.326 ct/kWh (14.6%) higher than in the second

half of 2021, for those purchasing electricity from low-voltage grids the price will be 13.573 ct/kWh (excluding VAT), or 1.188 /kWh (9.6%) higher than in 2021 II half of the year.

- Article 59(1)(o) of Directive (EU) 2019/944: Prices for household customers

Household customers, like commercial customers, have the right to choose an independent electricity supplier and purchase electricity on the market or under bilateral contracts. Household customers who have not chosen an independent electricity supplier, as well as vulnerable customers, are supplied with electricity at the public electricity price by the public supplier operating in the territory specified in the license.

Compared to the previous year, the average annual consumption per household customer increased from 1 859 kWh to 1 900 kWh.

As of 1 October 2018, UAB "Lietuvos energijos tiekimas" has taken over the performance of the activities of public supply from AB "Energijos skirstymo operatorius". In 2019, said legal entity changed its name to UAB "Ignitis". UAB "Ignitis" is carrying out both the activities of public electricity supply and the activities of independent electricity supply. In 2021, this company supplied 65.6% of the total electricity consumed by household customers, of which 72.5% was at the public electricity price. In 2021, as in 2020, the share of public electricity supply in the retail market remained similar at around one third of total consumption.

According to the provisions of the LE, for electricity customers whose facilities are connected to electricity networks managed by the TSO, the guaranteed supply of electricity is ensured by the DSO serving more than 100,000 customers, and for electricity customers whose facilities are connected to electricity networks managed by the DSO, the guaranteed supply of electricity is ensured by the DSO. 61,671 customers used the services of a guaranteed supplier in 2021 (92,600 in 2020).

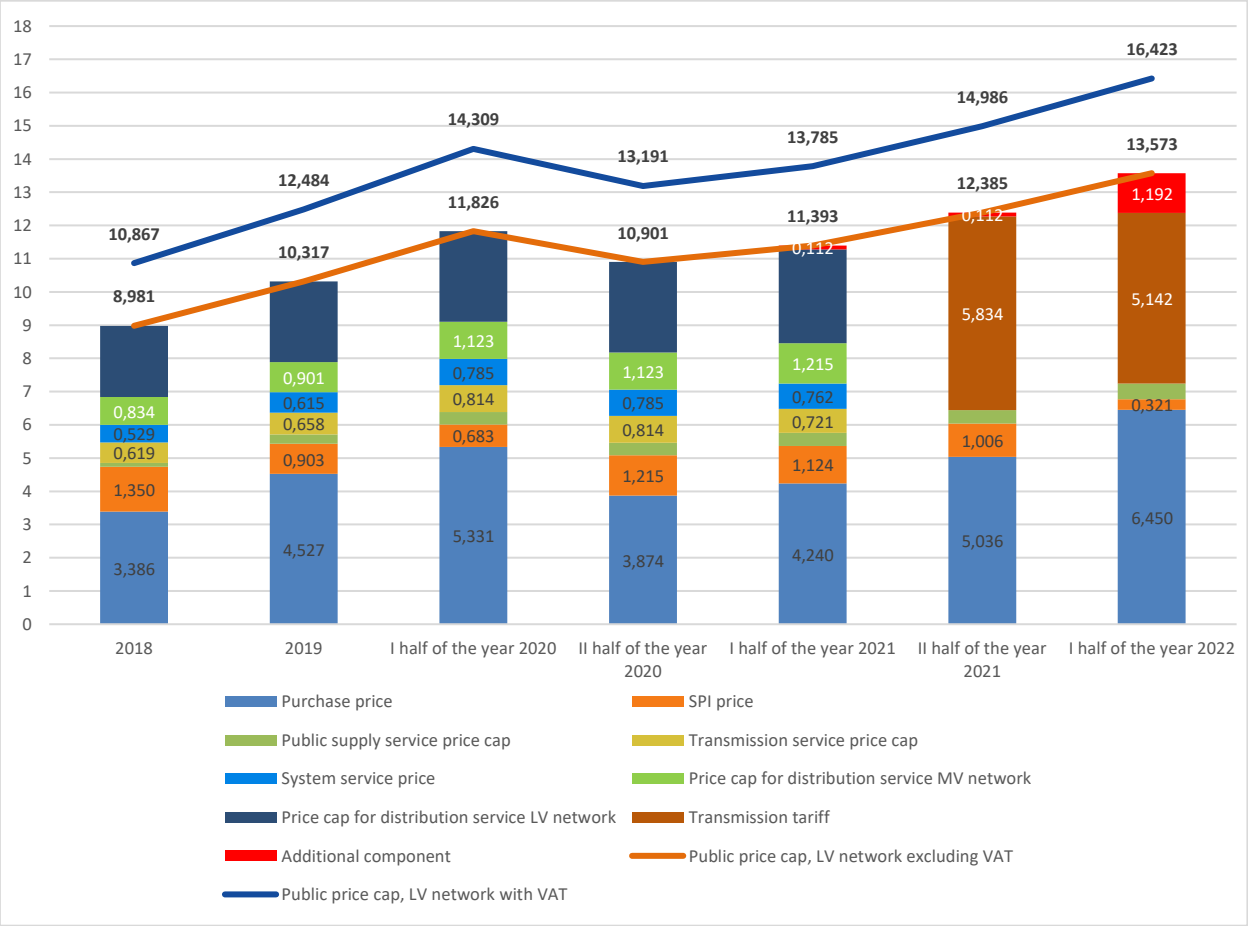
Price cap for the public supply of electricity*:* UAB "Ignitis" sells electricity to customers paying in accordance with the public tariffs; thus, the NERC, when calculating the price cap for the public supply of electricity, assessed the amount of energy sold to household customers, consuming less than 5,000 kWh of electricity per year and who have not chosen an independent supplier – in 2022, the price cap for the service of the public supply of electricity at 0,468 c/kWh was set. Compared to 2021 (0.397 ct/kWh), it is 0.071 ct/kWh higher. The increase in the cap in 2022 compared to 2021 was significantly influenced by the decrease in the volume of electricity forecast to be supplied to regulated household customers due to the liberalization of the electricity supply market in the household segment.

Household customers pay for their electricity at public tariffs set by NERC. The cost of electricity to the final customer consists of:

- the purchase price;
- the price of services of public interest;
- the price of system services;
- the price of transmission service;
- the price of distribution service in medium-voltage and low-voltage networks;
- the supply price;
- the additional components.

Having established all the components of the electricity price, in 2021 the NERC approved a 2022 public electricity price for household customers purchasing electricity from the medium-voltage grid of 10.410 ct/kWh (excluding VAT) or 1.326 ct/kWh (14.60%) higher than in the second half of the year of 2021, for those purchasing electricity from low-voltage grids the price will be 13.573 ct/kWh (excluding VAT), or 1.188 ct/kWh (9.59%) more than in the II half of the year of 2021. These changes were mainly driven by an increase in the components of the price cap for the public supply service, the purchase price for the public supply of electricity, and the additional component to the distribution price, and were mainly influenced by an increase in the forecast market price of electricity and a decrease in the volume of electricity planned to be supplied.

Figure 14. Average electricity price in 2018-first half of 2022 (ct/kWh excluding VAT)



Source - NERC.

In 2021, NERC approved the price for access to interconnection lines (hereinafter - AIL) for 2022, which amounts to EUR 6.84/MWh, 18.8% higher than in 2021 (EUR 5.76/MWh). Up-to-date information on the price of AIL is available on the NERC website www.NERC.lt (English), under "Regarding price of the service of access to interconnection lines"[9].

- Article 59(1)(o) of Directive (EU) 2019/944: Pre-payment system

The pre-payment system is applied to the following services provided by the largest DSO:

- *Disconnection-connection upon request of the client;*

[9] https://www.NERC.lt/en/Pages/regarding-price-of-the-service-of-access-to-interconnection-lines.aspx

- *Disconnection-connection after payment of a debt;*
- *Services of resistivity measurement;*
- *Services of smart metering implementation;*
- *Other services.*

The pre-payment system of customers purchasing electricity from the public electricity supplier applies to the services listed in the table below.

Table 8. *Services of the public electricity supplier that are subject to a pre-payment system*

Service group	Explanation of the service/comments
Remuneration due for bailiff's actions	Applicable to clients who have been made subject to debt recovery and bailiff's actions have been performed.
Remuneration due for notarial actions	The service has never been provided.
Advance payment for the electricity consumed	The service has never been provided.
Fine for failure to comply with contractual obligations	The service has never been provided.
Legal action administration fee (lawyer's services, commission fee for payment order and confirmation of stamp duty order, other expenses)	Applicable to clients whose debt has been taken to court, or who have been the subject of a judicial debt recovery procedure.
Interest awarded by the court	The service has never been provided.
Stamp duty	Applies to customers whose debt has been referred to court.

Source - NERC.

- Article 59(1)(o) of Directive (EU) 2019/944: Dynamic price contracts

In 2021, approximately 1,100 dynamic contracts were concluded with household customers. The absence of smart meters (delayed deployment) has prevented customers from actively switching to dynamic pricing contracts (the number of dynamic pricing contracts in 2020 was similar at around 1100). For customers with smart meters, the DSO AB "Energijos skirstymo operatorius", offers the electricity tariff plan under the title "Smart", in which the following time intervals are applied: the energy component of night, morning, day, and the evening. The Saturday, Sunday and public holiday time intervals are split into the corresponding Night and Day time intervals.

- Article 59(1)(o) of Directive (EU) 2019/944: Use of smart meters

At the end of 2021, 63 673 automated meters had been installed in Lithuania. In 2021, 9,572 automated meters were installed for domestic customers.

DSO AB "Energijos skirstymo operatorius" planned to start mass deployment of smart metering devices (100% for commercial customers and 54% for household customers consuming more than 1,000 kWh/year) in the second half of 2021, but in order to ensure the technical and data security requirements and to achieve the best results, the deployment was delayed until the first half of 2022. In May 2021, a contract for the purchase of smart meters and related systems was signed in the Smart Meter Project. Preparations for deployment are ongoing and deployment is planned. NERC will carry out remote monitoring of the project, i.e., NERC obliged AB "Energijos skirstymo operatorius" to set up a monitoring system by 31 December 2021 and to obtain NERC's approval for this system. In 2022 and 2023 (by 1 July at the latest), the AB „Energijos skirstymo operatorius" will have to submit project implementation reports and supporting documents to NERC in order to verify that the benefits generated are in line with the financial and economic

indicators of the investment projects agreed by NERC. In subsequent periods, reporting will take place twice per regulatory period.

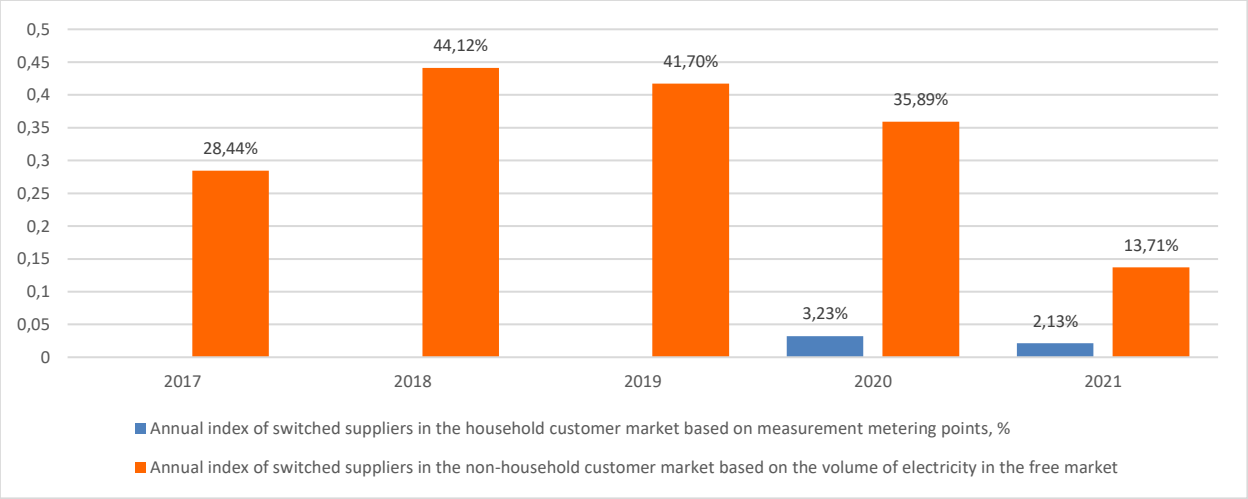
The DataHub project has developed several additional modules over the course of 2021 - not only to change provider via the DataHub platform, but also to manage the owner's data, as well as a billing and reporting module.

- Article 59(1)(o) of Directive (EU) 2019/944: Electricity supplier switching index

Following the adoption of the LE amendments in May 2020 and after the launch of the liberalization process of the electricity retail market, as indicated above, household customers, like commercial customers, also have the right to choose an independent electricity supplier and purchase electricity on the market or under bilateral contracts. Although, until 2019, household customers were not inclined to switch suppliers (from 2016 to 2019, the external annual index of switched suppliers in the household customer market based on measurement metering points was equal to zero), in May 2020, following the adoption of the LE amendments and after the launch of the liberalization process of the electricity retail market, a significant shift in the switch of the electricity supplier has been noticed. By 29 December 2021, 99% (96 452 customers) of the customers who entered Phase I, 41% (316 349 customers) of the customers who entered Phase II, and in total 590 463 customers had chosen an independent electricity supplier. In total 630 386 customers have chosen an independent electricity supplier by 23 March 2022 (over 1.658 million customers in Phases I-III). In 2021, it was decided to extend the deadline for Phase II customers (consuming 1000-5000 kWh/year) to 18 June 2022 to choose a supplier and conclude contracts.

The figure below shows the annual index of switched suppliers in the non-household market by electricity volume and in the household market by number of metering points. In 2021, the annual index of switched suppliers in the non-household market in terms of the volume of electricity on the free market was 13.71% and in the household market in terms of the number of metering points it was 2.13%. In 2021, the annual index of switched suppliers in the market of non-household customers in terms of the volume of electricity on the free market decreased by 22.8% compared to 2020, while in the household market in terms of the number of metering points it decreased by only 1.1%.

Figure 15: Annual index of switched suppliers in the non-household customer market based on the volume of electricity in the free market and in household customer market based on measurement metering points in 2017–2021, %



Source - NERC.

- Article 59(1)(o) of Directive (EU) 2019/944: Charges for the services of technical maintenance

The NERC assesses the costs of electricity transmission operator and the main DSO (AB "Litgrid" and AB "Energijos skirstymo operatorius"), small DSOs (AB "Achema", AB "Akmenės cementas", AB "Lifosa", UAB "Dainavos elektra") according to annual reports on regulated activities, as well as repair, maintenance and operation, personnel, administrative and other costs. Economically justified technical maintenance costs for electricity transmission activities and electricity distribution activities are included in setting the price cap of the TSO transmission service and the price cap of the DSOs distribution services via medium-voltage and low-voltage networks.

- Article 59(1)(o) of Directive (EU) 2019/944: Link between the price of electricity for household customers and the wholesale electricity price

In accordance with the Methodology for Setting of Price Cap for Electricity Transmission, Distribution and Public Supply Services and the Public Supply approved by the NERC, one of the components of the public electricity price is the cost of the purchase of electricity, which consists of the forecast market price of electricity, determined in accordance with the Methodology for Setting of the Forecast Electricity Market Price and the Reference Price approved by the NERC, as well as other costs related to the purchase of electricity, such as electricity exchange fees, balancing costs and the adjustment of the share of the forecast and actual cost of the purchase of electricity.

It should be noted that, in accordance with the Methodology for the Setting of the Forecast Electricity Market Price and Reference Price, the NERC sets the forecast electricity market price for the coming calendar year or recalculates it for the current calendar year as a weighted average after assessing the following:

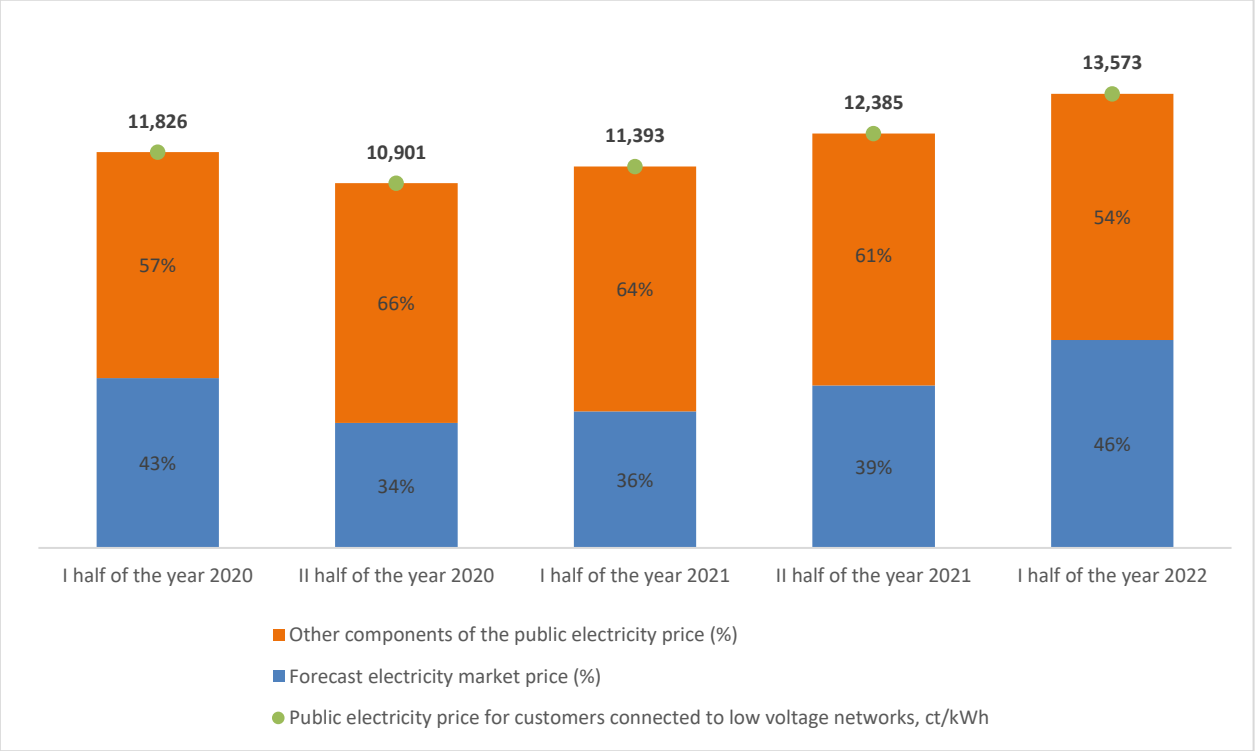
1. Electricity prices and quantities traded on the electricity exchange in the territory of Lithuania during the day-ahead trading session without assessing the quantities traded

in the manner specified in Item 3 of the aforementioned methodology at Central European Time for the last 12 calendar months ending on 31 August of the current calendar year or no later than two months prior to the application of the recalculated price if the forecast electricity market price is recalculated for the current calendar year.

2. Electricity prices and quantities traded on the wholesale electricity market under direct bilateral contracts concluded alongside the electricity exchange between Lithuanian producers and suppliers for the last 12 calendar months ending on 31 August of the current calendar year or no later than two months prior to the application of the recalculated price if the forecast electricity market price is recalculated for the current calendar year.

3. Electricity prices and quantities traded under auxiliary instrument trade on the energy resource exchange and based on a bilateral contract in the territory of Lithuania for the last 12 calendar months ending on 31 August of the current calendar year or no later than two months prior to the application of the recalculated price if the forecast electricity market price is recalculated for the current calendar year.

Figure 16: Share (%) of the electricity market price within the public electricity price cap in the I half of the year 2020 – the I half of the year 2022.

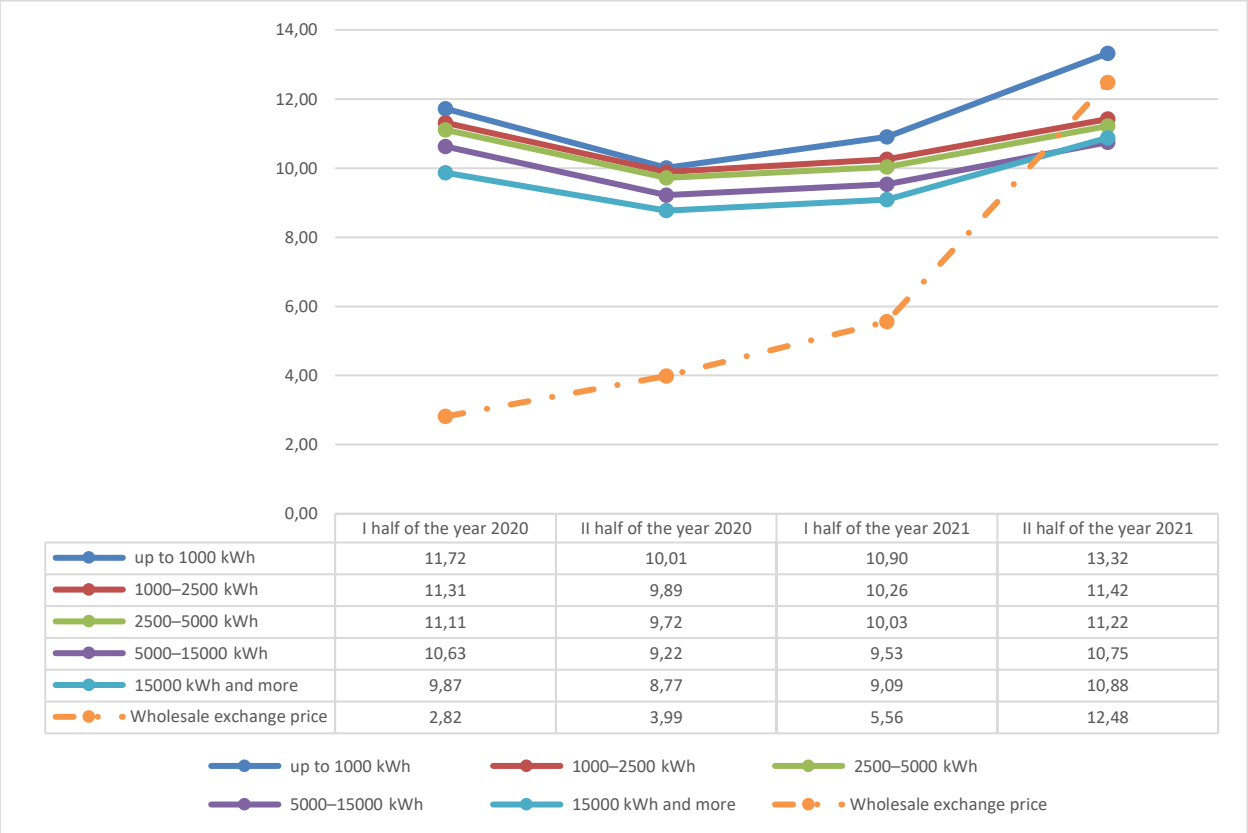


Source - NERC.

The forecast electricity market price within the public electricity purchase price, which applies to household electricity customers, accounts for more than 30% of the total public electricity price applied to customers connected to low-voltage networks.

In 2021, the wholesale electricity market is seen to have a sharp increase in electricity prices. On the electricity exchange (Nord Pool), the average purchase price of electricity in 2021 has increased almost 4-fold from January to December, from EUR 53.64 to EUR 212.22/MWh. The average exchange price in 2021 has risen almost 2.7 times compared to 2020.

Figure 17. Change in the average electricity market price (ct/KWh) for household customers and change in the average electricity market price (ct/KWh) on the Nord Pool exchange in I half of the year 2020 - I half of the year 2021.



	I half of the year 2020	II half of the year 2020	I half of the year 2021	II half of the year 2021
up to 1000 kWh	11,72	10,01	10,90	13,32
1000–2500 kWh	11,31	9,89	10,26	11,42
2500–5000 kWh	11,11	9,72	10,03	11,22
5000–15000 kWh	10,63	9,22	9,53	10,75
15000 kWh and more	9,87	8,77	9,09	10,88
Wholesale exchange price	2,82	3,99	5,56	12,48

Source - NERC.

According to Eurostat (https://ec.europa.eu/eurostat/data/database), in the second half of the year in 2021, the average electricity price for household electricity customers consuming up to 1000 kWh/year increased by about 13.7% (from 11.72 to 13.32 ct/kWh) compared to the first half of 2020 and was almost equal to the wholesale price of electricity purchased on the electricity exchange. As the vast majority of residential customers (99.3%) have opted for fixed-price electricity plans, the price hike for these consumers was not as significant, but the prices increased in first half of the year 2022.

- Article 59(1)(o) of Directive (EU) 2019/944: Distortion or restriction of competition

Article 8(9)(15) of the Law on Energy establishes that the NERC monitors whether there are any occurrences of contractual practice that restricts competition, including exclusivity clauses whose application may prevent large non-household consumers from entering into contracts with more than one supplier at the same time or restrict their ability to do so.

The submission of information about distortions or restrictions of the electricity market, including the provision of appropriate information, as well as submission of market research into relevant cases within the market are carried out in accordance with the procedure established by the legal acts. The NERC conducts market research in order to ensure effective competition within the electricity sector, as well as to prevent market participants from applying excessive

prices or using price pressure due to the lack of effective competition, thus causing harm to market participants. It should be noted that no such cases were recorded in 2021.

- Articles 59(1)(s) and 5(1) of Directive (EU) 2019/944: Competitive prices

In accordance with the provisions of the Law on Energy, once every 5 years, the NERC publishes recommendations relating to compliance of prices for the services within the energy sector with transparency, non-discrimination and other requirements laid down in legislation, and submits them to the Competition Council of the Republic of Lithuania. The NERC approved said recommendations by Resolution No O3-373 of 19th June 2015 "Regarding the Approval of the 2015 Recommendations Relating to Compliance of Prices for the Services Within the Energy Sector with Transparency, Non-discrimination and Other Requirements Laid Down in Legislation". The recommendations are published on the NERC website[10]. The new recommendations are expected to be published in 2022.

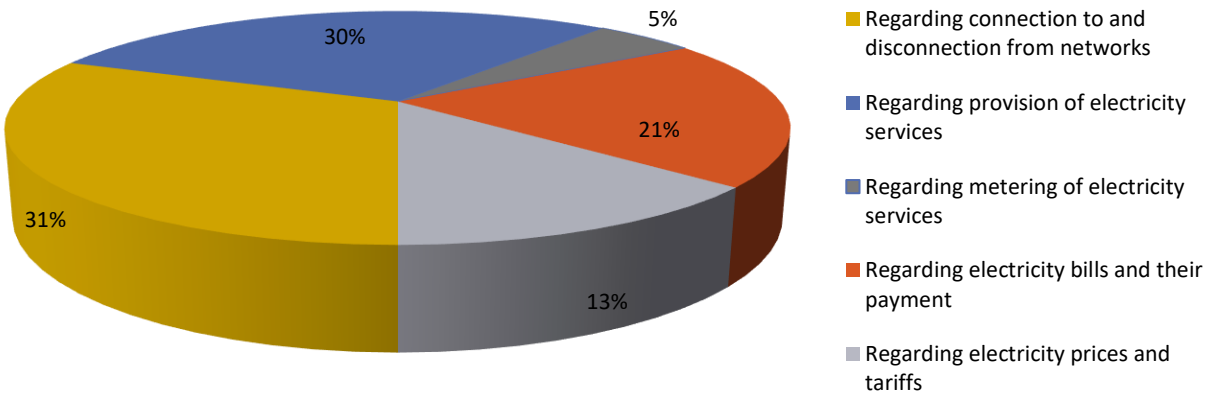
More information on electricity prices and competition in the retail market is provided in the chapter "Market opening and competition".

- **Customer protection and examination of applications**

- Article 59(1)(o) of Directive (EU) 2019/944: Complaints by household customers

In 2021, the NERC received 915 applications regarding the electricity sector. It should be noted that several issues are often raised in a single referral (e.g., on billing and applicable prices, or on billing and accounting, or on the provision of services and the applicable prices), so that the number of applications received is less than the total number of issues raised.

Figure 18: Distribution (%) of applications within the electricity sector received in 2021 according to the nature of the application



Source - NERC.

[10] https://www.NERC.lt/Puslapiai/statine/komisijos-nutarimu-sarasas.aspx.

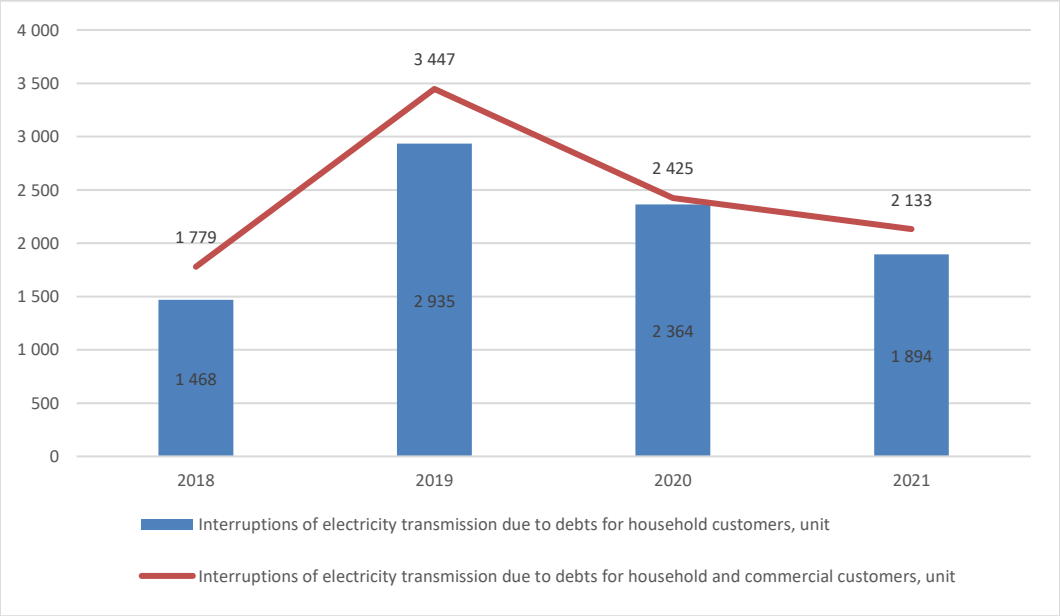
- Article 59(1)(o) of Directive (EU) 2019/944: Disconnection of customers from the electricity network

In 2021, AB "Energijos skirstymo operatorius" interrupted electricity transfer to 2 133 customers, including 1 894 household customers, in Q1- Q4 due to unpaid debts. Interruptions of electricity transport due to debt are carried out at any time of the year. No power cuts are performed when:

- *the maximum daily air temperature is below minus 15 (fifteen) degrees Celsius;*
- *the maximum daily air temperature above plus 30 (thirty) degrees Celsius;*
- *On Fridays, Saturdays, Sundays, public holidays and pre-holiday days.*

The average number of working days between the date of notification to pay the bill and the date of disconnection in the absence of payment is 22 working days.

Figure 19. Interruptions of electricity transmission due to debts in 2018-2021



Source - NERC.

In total, 2 133 electricity cuts due to debts were carried out in 2021 (1 894 for household customers, 239 for business customers).

- Article 59(1)(p) of Directive (EU) 2019/944: Contractual practice that restricts competition

In 2021, a contractual practice that restricts competition was not identified.

- Articles 5(2) and 59(1)(s) of Directive (EU) 2019/944: Protection of vulnerable customers and customers in energy poverty

Measures for the protection of vulnerable customers are provided for in the Law on Electricity and the Description of the Procedure for the Application of Additional Guarantees for Socially Vulnerable Electricity Customers approved by Resolution of the Government of the Republic of Lithuania No 527 of 27 May 2015.

Under the Law on Electricity, household customers, including vulnerable customers, have the right to:

1) unilaterally terminate, free of charge, the electricity transfer service contract and/or electricity sale-purchase agreement upon notifying the network operator and/or supplier in writing no later than 2 weeks prior to the planned agreement termination date; Until 27 July 2021, the deadline was 3 weeks.
2) conclude electricity sale-purchase agreements of indefinite duration with the public supplier in cases wherein the household customer does not choose an independent electricity supplier or the independent supplier of their choice fails to fulfil the assumed obligations and the household customer intends to purchase electricity from the public supplier, as well as an electricity sale-purchase agreement of indefinite duration with an independent supplier and an electricity transfer service contract with the DSO.

On 1 January 2021, the public supplier terminates the electricity supply for all household customers whose actual electricity consumption in the facility, during the period from 1 June 2019 to 31 May 2020, is no less than 5,000 kWh, as well as for household customers whose facilities are connected to medium-voltage electricity networks; however, the public supplier shall continue the electricity supply to vulnerable customers who have obtained the status of a vulnerable customer at least once during the period from 1 June 2019 to 31 December 2020.

The Law on Electricity also provides for additional measures for the protection of the rights and legitimate interests of vulnerable customers, i.e., the supply and/or transport of electricity may not be restricted and/or interrupted for vulnerable customers when they fail to pay for the supplied electricity within the set time limit, do not pay or pay in part for the electricity transport service or other related services, provided that the debt owed by said vulnerable customers to the distribution network operator or supplier is or was no larger than 3 basic social benefits.

In case vulnerable customers fail to pay for the supplied electricity within the set time limit, do not pay or pay in part for the electricity transport service or other related services, the supply and/or transport of electricity may not be interrupted on Fridays, Saturdays, Sundays, public holidays and days preceding public holidays, or when the average daily air temperature is lower than -15°C or higher than +30°C, except in certain cases when electricity transport is temporarily interrupted through no fault of the network user and when electricity transport is interrupted through the fault of the network user. In such cases, the supply to the customer may be interrupted on the day following the end of the circumstances set out in this item if said vulnerable customer has been notified about the interruption in accordance with the procedure 66 laid down in the Rules for the Supply and Use of Electricity and other implementing legislation of said law.

Vulnerable customers have the right to pay the DSO or supplier by the last day of the month following the calendar month during which electricity has been transferred and/or supplied to the customer or other related services have been provided (except in cases wherein, at the request of the vulnerable customer, longer time limits for payment have been agreed on).

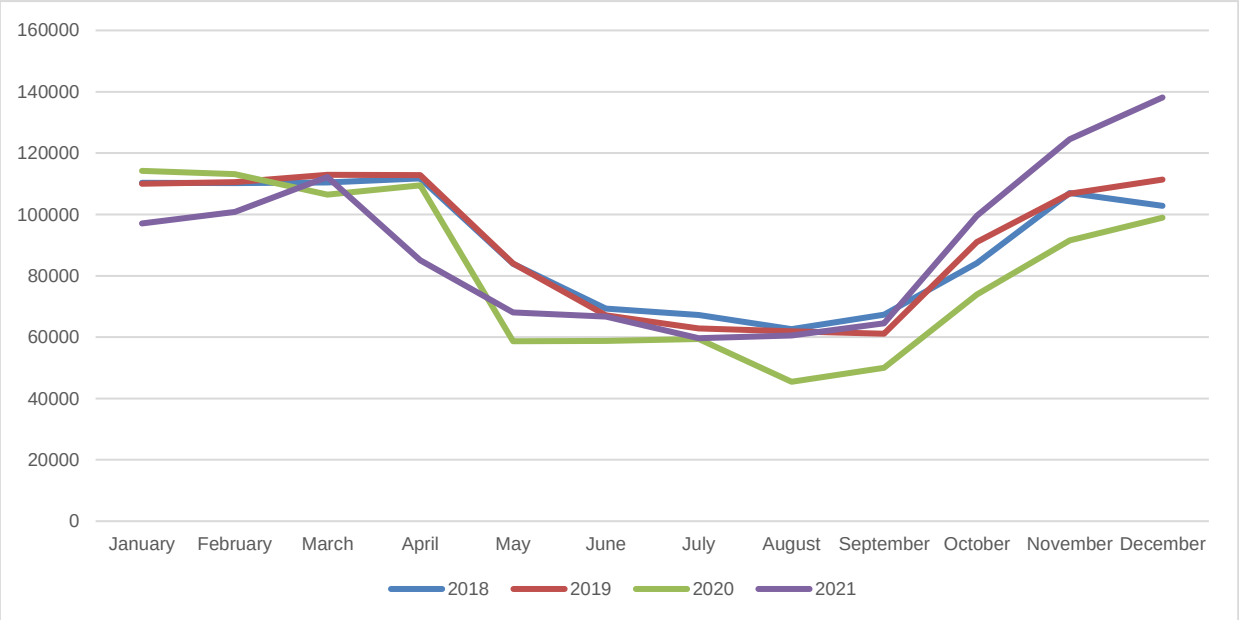
When carrying out the connection of electrical equipment of vulnerable customers to the electricity networks managed by the DSO, where the connection fee exceeds EUR 600, a share of 60% of the connection fee is paid within 10 calendar days from the signing of the connection service contract by the customer, while the remaining share of the fee is paid within 10 calendar days from the end of the contract works. The provision of the connection service commences

once the vulnerable customer pays the first share of the connection service fee. The DSO informs the vulnerable customer about the end of the works provided for in the work contract and provides the documents necessary for the payment in accordance with the procedure laid down in the connection service contract.

Also, if vulnerable customers fail to pay for the supplied electricity within the set time limit, do not pay or pay in part for the electricity transport service or other related services, interest on late payment is not calculated for the 3 months following the date on which the time limit has been exceeded.

In the Description of the Procedure for the Application of Additional Guarantees for Socially Vulnerable Electricity Customers approved by the Government of the Republic of Lithuania, it is established that if a vulnerable customer wishes to receive a paper payment document, the DSO or public supplier may not require the customer to cover the costs of submitting the paper payment document to the customer.

Figure 20. Number of socially vulnerable customers in 2018–2021



Source - NERC.

- Article 5(3), (4) and Article 59(1)(s) of Directive (EU) 2019/944: Intervention by setting electricity prices for vulnerable household customers

According to the provisions of the Law on Electricity, the public electricity supplier supplies electricity to vulnerable customers at the public electricity price. This price is regulated by the State. More information on the prices of the public supply of electricity applied to vulnerable customers is provided in the chapter “Prices for household customers”.

- Article 59(1)(t) of Directive (EU) 2019/944: Customers consumption data

In accordance with the provisions of the Law on Electricity, customers have the right to acquaint themselves with the electricity consumption data, including the amount of consumed electricity,

as well as, after entering into a clear agreement, to allow any supplier to use their metering data free of charge, to which the customer is also entitled to free of charge.

The network operator is responsible for the organization of measurement and metering of the electricity transported via the electricity networks managed by them. The amount of electricity consumed by the customers connected to the distribution networks and purchasing electricity from public or independent suppliers, which is to be established by the network operators based on meter readings, is recognized by the TSO as the actual amount of consumed electricity that must be purchased by the public or independent supplier.

After the end of the calendar month, no later than within 4 (four) working days, the DSO must provide the supplier with the available data on the amounts of electricity received from the distribution network and/or transmitted to the distribution network by the network users who are located in the territory indicated in the operating license of the DSO and who have concluded electricity purchase and/or sales contracts with the said supplier.

If the electricity meter is not connected to the automated data reading system of the DSO, commercial users may do the following with their electrical energy consumption data:

- *Declare their electricity consumption data on the operator's self-service website;*
- *The amount of consumed electricity may be calculated based on the annual average of electricity consumption if the customer does not provide the actual readings within the time limit stipulated in the contract.*

If the electricity meter is connected to the automated data reading system of the DSO, commercial users can see their electricity consumption data on the operator's self-service website, there is no need for the customer to declare the data themselves. Customers of the main supplier UAB "Ignitis" can declare their electricity readings on the self-service website and pay for the services online or in cash, via the customer service phone number, e-mail.

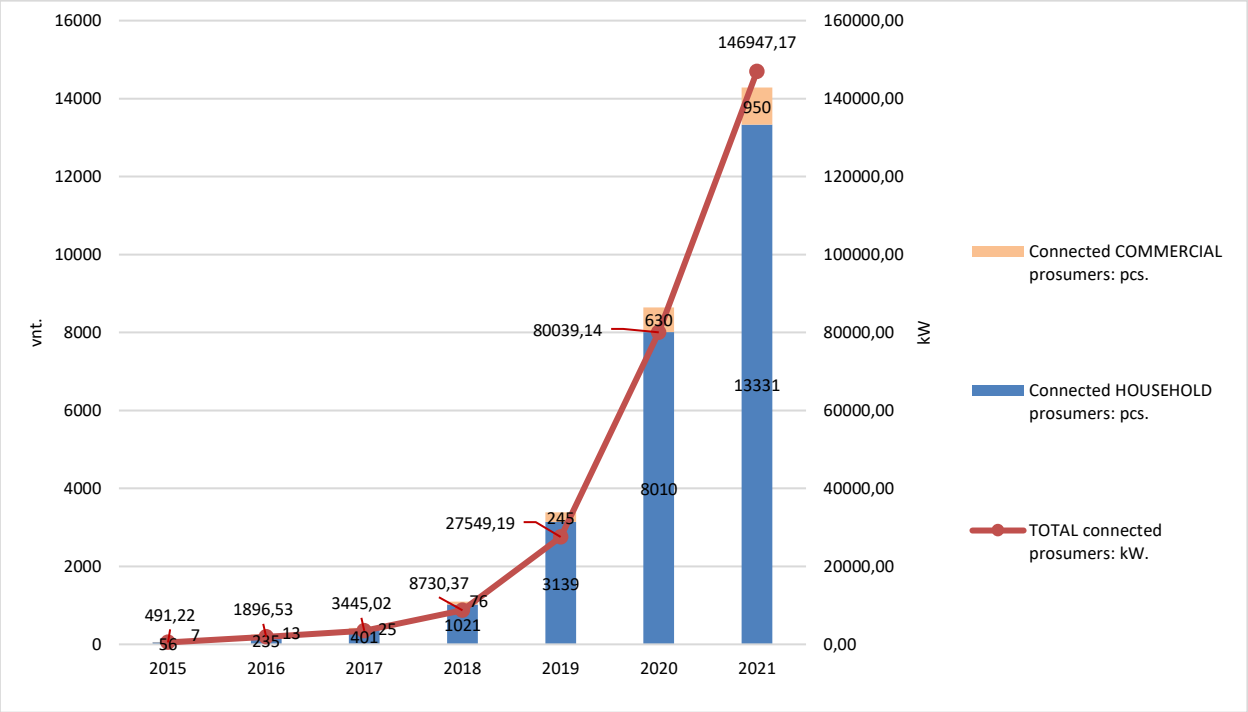
- • Articles 59(1)(y) and 14 of Directive (EU) 2019/944: Availability of a comparison tool for the offers of suppliers

In September 2021, NERC launched a new electricity price comparison tool for household customers - a tool that facilitates the process of choosing an independent electricity supplier and provides customers with more information on electricity tariffs charged by suppliers. The price comparison tool allows to compare the offers of different independent electricity suppliers based on criteria that are relevant to customers: the customer's annual (monthly) electricity consumption, the number of time zones, the demand for renewable energy, and the duration of the price lock-in offered in the plan (1-12 months, 13-24 months, or price offers of longer than 2 years). Once the criteria have been selected, the user is presented with the plans offered by the suppliers, ranked from cheapest to most expensive. The price comparison tool is available on the NERC website https://skaiciuokle.NERC.lt/. The price comparison tool does not yet cover variable price contracts and offers for small businesses, but these functionalities are expected to be available in 2022.

- Article 59(1)(z) of Directive (EU) 2019/944: Obstacles and restrictions regarding the consumption of self-produced electricity and the development of citizens' energy communities

In 2021, the Law amending the Law of the Republic of Lithuania on Electricity No. VIII-1881, which introduces the concepts of active customers and citizens' energy communities, as well as the rights and obligations of these entities. Under the law, both active customers and citizens' energy communities can consume electricity generated in power plants they own and sell it to other persons or to members of the community.
NERC monitors the change in the number of prosumers who are entitled to consume the electricity produced by owned or otherwise operated power plants (both when it is fed into the grid and when it is withdrawn). The rapid growth in the number of prosumers suggests that there are no major barriers to the consumption of self-generated electricity.

Figure 21. Number and installed power of household prosumers, which have installed solar power plants



Source - NERC.

In 2021, the number of household and commercial prosumers, which have installed power plants increased by 5,321 and 320 respectively, and the installed capacity of these power plants increased by 66,908 MW (52,337 MW for residential and 14,571 MW for commercial).

4. GAS MARKET

4.1. Network regulation

- Network and LNG tariffs for connection and access

  - Report on the relevant new tariff regulation provisions

Setting of upper-income limit

NERC sets the upper-income limit for natural gas services for a five-year period which may be adjusted once a year. The NERC approves the specific transmission, distribution, and LNG regasification prices once a year after verifying that they do not discriminate against separate customer groups and do not exceed the set upper-income limit.

In 2021, the Description of Requirements for Accounting Unbundling and Cost Allocation of Natural Gas Companies, the Procedure for the Assessment and Coordination of Investments in Natural Gas, Electricity and Liquefied Petroleum Gas, and the Methodology for Determining the Income and Prices of the State-Regulated Transmission of Natural Gas Activities were amended. The amendments create an incentive mechanism for energy companies to invest in innovation projects, as well as to implement investments to reduce climate change. An additional levy for energy companies to cover up to half of the value of the innovation, but not exceeding 0.5% of the company's regulated activities revenues, and a 1%-point return on investment incentive for 5 years after a project has proven to be successful in a pilot environment.

- Article 41(1)(a) and (6)(a) of Directive 2009/73/EC

Transmission activities

Transmission activities in Lithuania are carried out by 1 transmission system operator (TSO) - AB "Amber Grid". The transmission business uses an entry and exit point pricing model, with revenue caps set and adjusted at the entry and exit points of the transmission system.

NERC has set "Amber Grid" the EUR 40 440.2 thousand upper limit of natural gas transmission income for 2022 for (in 2021 the company's income level was at EUR 42 377.44), i.e., 4.57% lower than in 2021.

After verifying that the natural gas transmission service prices submitted by AB "Amber Grid" do not exceed the revenue cap, are correctly differentiated to avoid cross-subsidization between groups of system users, are reasonable and objective, NERC approved an average 29% reduction in the transmission service prices to be charged by AB "Amber Grid" from 1 January 2022.

Table 9. *AB "Amber Grid" prices for long-term natural gas transmission services for 2019-2021*

				2019	2020	2021	2022	Percentage change in 2022 and 2021
At the inlet points	Kotlovka DAS			43.46	142.77	142.77	142.77	0
					35.96**	35.96**	35.96**	0
	Kiemėnų DAS			43.46	142.77	142.77	142.77	0
	Klaipėda DAS			9.56*	35.69*	35.69*	35.69*	0
At the exit points	At the internal exit point	up to 10.4 TWh	For capacity on demand, Eur/MWh/day/year	101.6	57.24	92	57.89	-37,08
			For consumption capacity, Eur/MWh/day/year	63.17	50.33	55.55	53.96	-2,86
			For volume, Eur/MWh	0.69	0.74	0.86	0.09	-89,53
		over 10.4 TWh	For capacity on demand, Eur/MWh/day/year	47.26	57.24	92	57.89	-37,08
			For consumption capacity, Eur/MWh/day/year	63.17	6.57	7.23	8.46	17.01
			For volume, Eur/MWh	0.18	0.08	0.08	0.09	12.5
	Kiemėnų DAS	For capacity on demand, Eur/MWh/day/year		152.95	88.73	162.32	149.59	-7.84
		For volume, Eur/MWh		0.00	0.06	0.06	0.09	50
	Šakiai DAS	For capacity on demand, Eur/MWh/day/year		31.72	39.4	44.12	32.76	-25.75
		For volume, Eur/MWh		0.07	0.06	0.06	0.09	50.00
	Santakos DAS	For ordered capacity, Eur/kWh/h					0.0004	-
		For volume, Eur/MWh					0.09	-

** 75% discount at the Klaipėda DAS entry point.*

*** The Kotlovka DAS entry point applies (on average) a 74.8% discount on capacity with restrictions to transport gas to a third country.*

Source - NERC.

In order to ensure competition for the import of natural gas from different sources, promote competition between natural gas suppliers and avoid creating additional market barriers for the use of the gas of the LNG terminal, as well as taking into account the decisions concerning the Latvian, Estonian and Finnish general price area (FINESTLAT) natural gas transmission solutions, according to which the same natural gas transmission prices are set in the general price area entry points, the NERC set the proportion of the allocation of costs at 82,11% for entry points and 17,89% proportion for exit points.

Taking into account that the discount at the entry point of the Klaipėda gas metering station will increase competition on the natural gas market and promote the use of the LNG terminal, NERC agreed to apply a 75% discount at the entry point of the Klaipėda gas metering station in 2022.

Distribution activities

In 20201 the NERC adjusted the upper-income limit of three DSOs: AB “Energijos skirstymo operatorius”, UAB “Energijos skirstymo operatorius" and AB agrofirm “Josvainiai".

Table 10. *Dynamics of distribution of the upper-income limit in the natural gas sector, EUR thousand, 2019-2022*

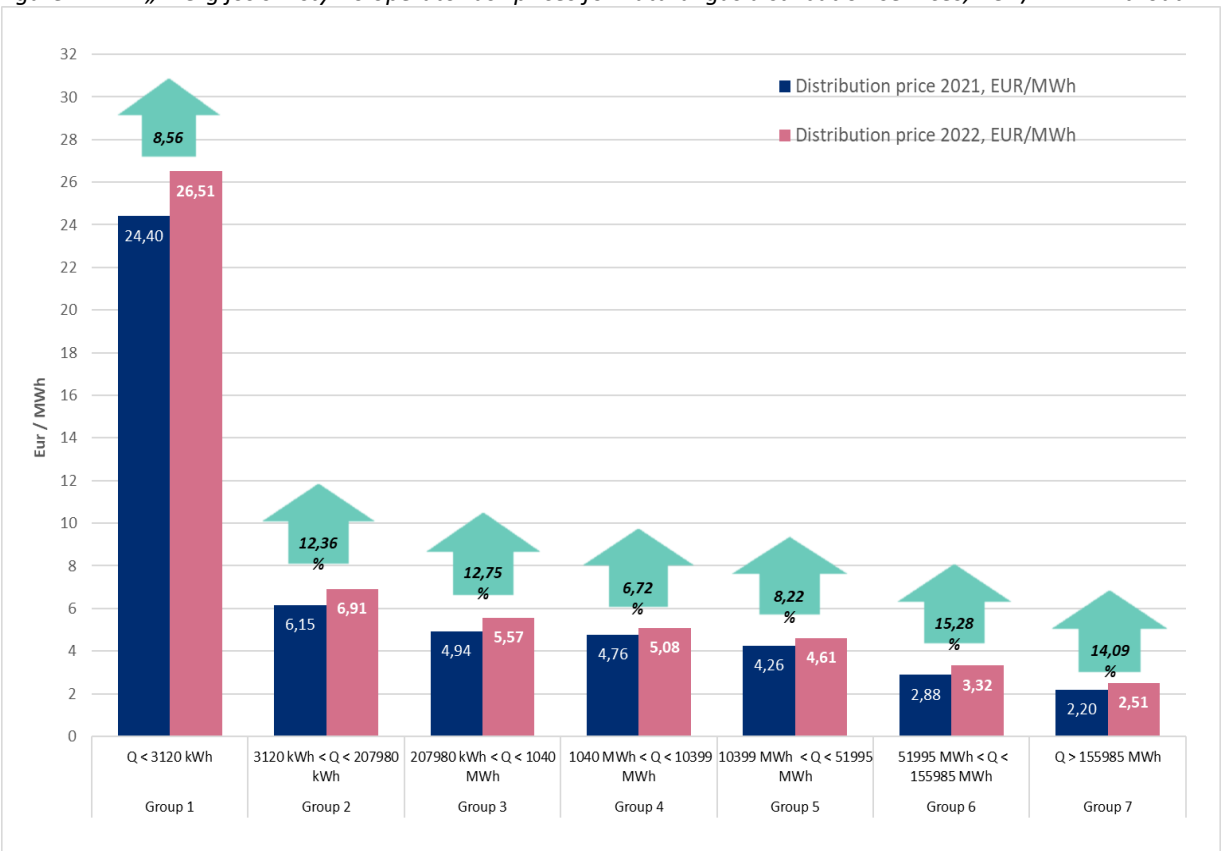
Income level, thous. Eur	2019	2020	2021	2022 m.	Change in 2022/2021, %
AB „Energijos skirstymo operatorius“	36 465 031	36 965 477	39 661 616	44 611 722	+12.48
AB agrofirm „Josvainiai”	50 369	54 084	53 349	55 641	+4.30
UAB „Gren Lietuva“	-	132 566	162 827	180 028	+10.56
UAB „Intergas“	-	-	2 589 286	2 779 566	+7.3

Source - NERC.

Having analysed the actual data of AB “Energijos skirstymo operatorius” for 2021 and taking into account the submitted forecast data, the NERC set the upper-income limit for the natural gas distribution activities for 2022 at EUR 44 611 722. Compared to 2021, it increases by 12,48%. The upper-income limit increases mainly due to the higher costs for natural gas technology and labour costs.

The average natural gas distribution price of AB "Energijos skirstymo operatorius" – EUR 6.01 per MWh – increases by 8.89% compared to 2021 (EUR 5.52 per MWh). Specific natural gas distribution prices are differentiated for different customer groups according to the volume of gas consumed. The change in prices is mainly due to the higher cap on the revenues of AB "Energijos skirstymo operatorius" natural gas distribution activities for 2022.

Figure 22. AB „Energijos skirstymo operatorius” prices for natural gas distribution services, EUR/MWh without VAT



Source - NERC.

Liquefied Natural Gas Terminal (hereinafter - LNGT)

NERC adjusted and set the revenue cap for LNG regasification activities of AB "Klaipėdos nafta" for 2022 at EUR 31 359 743, i.e., 3.46% lower than the previous year (EUR 32 482 248 for 2021). For AB "Klaipėdos Nafta", the LNG terminal operator, the revenue cap for regasification activities decreases for the following reasons:

- A revenue deviation of EUR 3,116,508 in 2020 due to the difference between forecasted and actual consumption capacities, which lowers the cap on LNG regasification revenues.
- A revenue deviation of EUR 3,988,963 due to the higher than 2020 forecast assessment of the variable part of the LNG regasification price revenue in the 2022 LNG regasification revenue cap.

Determination of specific prices for LNG regasification and transshipment services

The LNG regasification price consists of a fixed and a variable part: the fixed part is calculated per unit of consumption capacity of the identified transmission system users (Eur/(MWh/day/year)), the variable part is calculated per unit of the planned LNG volume to be regasified (Eur/MWh).

NERC has approved specific prices for services that will apply from 1 January 2022:

- The fixed part of the LNG regasification price is EUR 149.88/(MWh/day/year) excluding VAT, the variable part is EUR 0.41/MWh excluding VAT.
- The fixed part of the LNG regasification price decreased by 0.99% compared to the 2021 price (EUR 151.38/(MWh/day/year) excluding VAT), while the variable part remained unchanged.

AB "Klaipėdos Nafta" regasification prices were calculated taking into account the LNG infrastructure costs and competitive conditions when inserting gas at different points. The decrease in the fixed part of the price is due to the lower level of revenue allowed for LNG regasification in 2022 compared to 2021.

NERC has also set the price of the LNG transshipment service for the year 2020 at 0.56 Eur/MWh excluding VAT. Compared to the 2021 price, the price of the LNG transshipment service increases by 5.78%. The price increase is due to a 5.78% increase in costs attributable to transshipment activities.

From 1 January 2022, the transshipment charge is differentiated:

- for small-scale LNG cargoes up to 15 000 m3 of LNG - 0,56 Eur/MWh;
- for medium-scale LNG cargoes of 15 000 m3 to 50 000 m3 of LNG inclusive - 0,44 Eur/MWh;
- for large-scale LNG cargoes, the size of which exceeds 50 000 m3, but cannot exceed the technical capacity of the LNG terminal to handle cargoes of the respective size - 0.31 Eur/MWh.

In March 2022, in order to take advantage of the prospects of the natural gas market opening up with GIPL to reduce the cost of maintaining the LNG terminal for Lithuanian customers, NERC reviewed the pricing of the LNG terminal and decided that, as of 1 May 2022, LNG terminal pricing is determined by a cost-based tariff. Accordingly, the variable part of the LNG regasification price

approved by the NERC - EUR 1.19/MWh - entered into force as of 1 May 2022, while the fixed part of the price (which is paid only by Lithuanian customers) is set at zero.

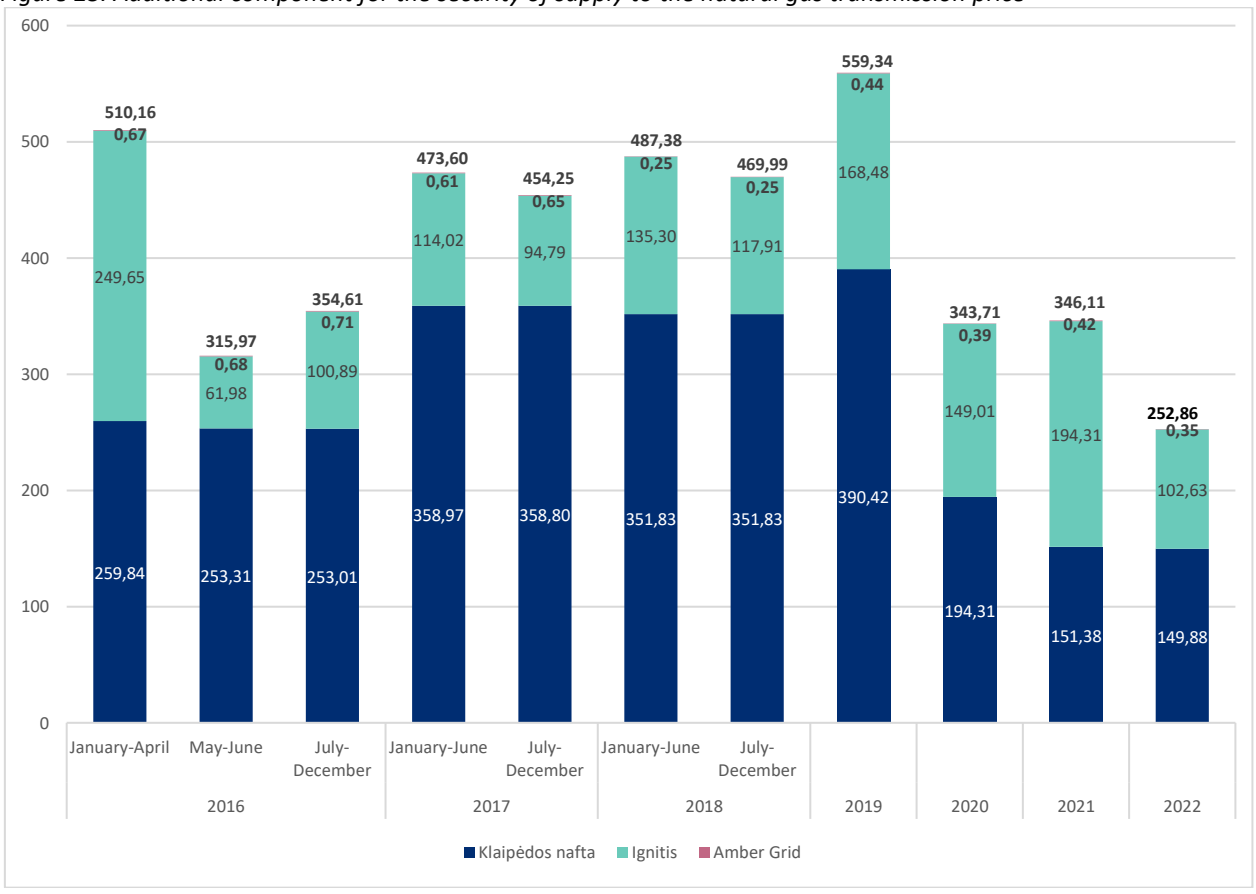
Additional component for the security of supply to the natural gas transmission price

The costs of installation of the LNGT, its infrastructure and interconnection, which cannot be financed from other sources available to the company implementing the LNGT project, as well as the total fixed operating costs of the LNGT, its infrastructure and interconnection, which are not included in other state regulated prices, and the reasonable costs of the LNGT necessary supply of the required volume shall be included in the Security component in the manner established by the NERC.

The security component is calculated as the sum of the fixed part of the LNG regasification price, the reasonable costs of supplying the necessary quantity of LNG and the costs of administering the LNG terminal funds per unit of consumption capacity.

For 2022, NERC has set the Security component at EUR 252.86/(MWh/day/year), which is 26.94% lower than for 2021 (EUR 346.11/(MWh/day/year)).

Figure 23. Additional component for the security of supply to the natural gas transmission price



Source - NERC.

Customer connection rates

In 2021, NERC extended the validity of the tariffs for the connection of new household customers' systems to the natural gas network set by NERC in 2020 for the natural gas DSO's AB agrofirm "Josvainiai", UAB "Intergas" and UAB "SG dujos" and approved the new tariffs for the connection

of new household customers' systems to the natural gas networks set by NERC for UAB "Gren Lietuva", which came into force on 1 May 2021. The fee for the connection of household customers' systems to the natural gas network consists of two rates: a rate that applies regardless of distance and a rate that applies for each meter of pipeline that needs to be laid.
In addition, NERC also approved the tariffs for the connection of new household customers' systems to the natural gas network of the natural gas DSO AB "Energijos skirstymo operatorius" in 2021, which entered into force on 1 January 2022. NERC has extended the connection tariffs for household customers of the first group of AB "Energijos skirstymo operatorius", consuming up to 300m^3 of gas per year, which were in force so far (the distance-independent tariff - EUR 962.46 and the tariff for the meter of gas pipeline - EUR 41.17). Having analyzed the system connection data provided by AB "Energijos skirstymo operatorius" for the second and third groups of household customers consuming more than 300m^3 of gas per year, NERC approved a tariff of EUR 250.74/unit for AB "Energijos skirstymo operatorius", applicable to the customer irrespective of the distance of the connection, as well as a tariff of EUR 16.30/m per meter of pipeline to be installed, for the second and third groups of household customers. Compared to 2021, the tariffs for the connection of new household customers' systems to the natural gas networks of AB "Energijos skirstymo operatorius" are decreasing by 58.16% and 43.19% respectively. The main reasons for the change in tariffs are: the increasing price cap for the natural gas distribution service, the increasing consumption of natural gas per customer and the decreasing investment per customer for connection.

Table 11. *AB "Energijos skirstymo operatorius" changes of rates for the connection of the systems of new household customers consuming more than 300m^3 of gas per year to the natural gas networks in 2017-2022.*

Indicator	Rate independent of distance, Eur	Rate per meter of gas pipeline, Eur/m
Connection fee 1 January 2017 – 30 April 2020	228.12	13.67
Connection fee 1 May 2020 – 31 December 2020	586.99	27.85
Connection fee 1 January 2021 – 31 December 2021	599.34	28.69
Connection fee from 1 January 2022	250.74	16.30

Source - NERC.

- Article 41(1)(s) and (n) of Directive 2009/73/EC

Storage of natural gas

Currently, there are no legal persons in Lithuania performing the activities of a natural gas storage operator. Also, operators do not provide line pack services and other ancillary services. System users use the Inčiukalnis Underground Gas Storage Facility located in the Republic of Latvia. The Latvian TSO and the storage operator JSC “Conexus Baltic Grid” allocate the capacity of the gas storage facility in the Republic of Latvia in accordance with the submitted applications.

In 2021, the provisions of Article 47 of the Law on Natural Gas of the Republic of Lithuania (hereinafter - “Law on Natural Gas”) were amended that changed the procedure for the accumulation of natural gas reserves, which provide that natural gas supply legal entities must take measures to ensure the supply of natural gas to vulnerable customers in every case, set out in Article 6(1) of Regulation (EU) 2017/1938. In implementing the requirement set out in Article 47(1), supply legal entities must first of all use natural gas market measures, and also have the right to accumulate natural gas reserves for vulnerable customers, which may only be used in accordance with the procedures laid down by the Government or any authority authorized by it.

- Balancing

- Article 41(6)(b) of Directive 2009/73/EC

The balancing regime is implemented in accordance with the following Commission Regulation (EU) No 312/2014 of 26 March 2014 establishing a Network Code on Gas Balancing of Transmission Networks (hereinafter – Network Code on Gas Balancing of Transmission Networks). Accordingly, most of the provisions of this Regulation that are not directly applicable are implemented in accordance with the regulations developed by the TSO[11], the DSO[12] prepared and NERC approved legal acts. This legislation lays down rules on information exchange, pricing of the imbalance charge, setting of the neutrality charge and other aspects of the balancing regime[13]. NERC monitors the implementation of the Regulation on an ongoing basis.

With the NERC Resolution of 30 December 2021 No. O3E-1802 "On Harmonization of the Balancing Rules for the Natural Gas Transmission System of AB "Amber Grid", the updated rules for the balancing of the natural gas transmission system of AB "Amber Grid", were prepared by the transmission system operator AB "Amber Grid", and have been harmonized, with substantial changes:

- The possibility of transferring balancing responsibilities to another system user is foreseen;
- The calculation and application of the neutrality charge is provided for;
- Instead of supply schedules provided by the companies, it is foreseen that both parties to a gas sale and purchase transaction will provide *trade notifications*;
- It is provided for the trade notifications having to be made no later than 30 minutes before the end of the gas day (there is no possibility to revise the data after the end of the gas day, i.e., there is no "last day's product").

With the NERC Resolution of 29 December 2021 No. O3E-1783 "On the Decision of the National Energy Regulatory Council of 5 October 2018 No. O3E-314 "On the approval of the Methodology for the determination of revenues and prices of State regulated natural gas transmission activities", the procedure for calculating the fees has been amended to take into account the Balancing Rules developed by the TSO and coordinated with NERC, as well as the calculation of the Neutrality charge.

[11] Rules for the use of the natural gas transmission system of AB "Amber Grid", as agreed by NERC Resolution No. O3E-1782(https://www.e-tar.lt/portal/lt/legalAct/e626714068ae11eca9ac839120d251c4) AB "Amber Grid" natural gas transmission system balancing rules, approved by the National Energy Regulatory Council on 30 December 2021. No. O3E-1802(https://www.e-tar.lt/portal/lt/legalAct/223312d0695211eca9ac839120d251c4).

[12] Rules for the use of the natural gas distribution system of AB "Energijos skirstymo operatoraius", as agreed by the NERC Resolution No. O3E-792 (https://www.e-tar.lt/portal/lt/legalAct/ec27e5e011d711ea9d279ea27696ab7b)

[13] Methodology for the Setting of Income and Prices for the State-regulated Natural Gas Transmission Activities, approved by Resolution No O3E-314 of 5 October 2018 of the NCC No. O3E-314 (https://www.e-tar.lt/portal/lt/legalAct/2fd91460c89811e8bf37fd1541d65f38)

- Cross-border issues

- Access to cross-border infrastructure, including capacity allocation and congestion management: Article 41(6)(c), Article 41(9) and (10) of Directive 2009/73/EC

Capacity allocation and congestion management

Capacity allocation and congestion management are carried out in accordance with the following rules of Commission Regulation (EU) 2017/459 of 16 March 2017 establishing a network code on capacity allocation mechanisms in gas transmission systems and repealing Regulation (EU) No 984/2013 ("the Network Code on Capacity Allocation Mechanisms") and Commission Decision (EU) 2015/715 of 30 April 2015 amending Annex I to Regulation (EC) No 715/2009 of the European Parliament and of the Council on conditions for access to the natural gas transmission networks. Accordingly, most of the provisions of these Regulations that are not directly applicable are implemented in accordance with the regulations drawn up by the TSO[4], the DSO[5] and the LNGT operator [14] and approved by NERC. These methodologies describe the characteristics of the products on offer and the procedures for ordering and distributing them.

NERC by the Resolution No. O3E-1787 "On Coordination of the Rules of Use of the Liquefied Natural Gas Terminal by AB "Klaipėdos Nafta" of December 29, 2021, coordinated the rules of the use of the liquefied natural gas terminal of AB "Klaipėdos Nafta". This amendment to the rules ensures simpler access to the LNG terminal: a single general contract has been prepared for all market participants wishing to use the LNG terminal, and capacity booking will be carried out by signing special conditions to the existing contract.

With the NERC Resolution of 29 December 2021 No. O3E-1782 "On Coordination of the Rules for the Use of the Natural Gas Transmission System of AB "Amber Grid", NERC coordinated the updated Rules for the Use of the natural gas transmission system of AB “Amber Grid” prepared by the TSO AB "Amber Grid", which came into force from 1 March 2022. The substantial changes were made to ensure that the right to use the natural gas transmission system operated by AB “Amber Grid” is granted in an objective and fair manner, without discrimination between individual system users, and to take into account the new Lithuanian-Polish gas interconnector - GIPL, as well as to harmonize the provisions of the rules with the rules applicable in the Latvian, Estonian and Finnish gas markets.

Regional pricing

The NERC has a duty to ensure that the pricing model for natural gas transmission services, the ITC compensation arrangements for transmission system operators, where applicable, and the prices for gas transmission services applied on a regional basis provide economic benefits to country’s customers. The decision on Lithuania's accession to the regional market area will be taken by the Government after assessing the conclusions of the Ministry of Energy of the Republic of Lithuania and NERC on the economic benefits of such a decision for the country's customers.

14 AB "Klaipėdos nafta" Rules for the use of the liquefied natural gas terminal, approved by 29 December 2021 NERC Resolution No. O3E-1787 (https://www.e-tar.lt/portal/lt/legalAct/280e8b1068af11eca9ac839120d251c4)

No decision has been taken on the establishment of a common price area for transmission services between Lithuania and FINESTLAT (Finland, Estonia and Latvia) and the ITC mechanism to be applied in 2021.

In November 2021, the TSOs of the 4 countries drafted and submitted to their national regulators a draft agreement on the regional gas transmission system entry tariff and reciprocal compensation mechanism (hereinafter - ITC Agreement) between the TSOs of Finland, Estonia, Latvia and Lithuania. The national regulatory authorities of the countries concerned have examined the submitted ITC agreement but have not received sufficient justification from the TSOs that the proposed ITC agreement ensures that the TSOs' cost recovery arrangements are such as not to adversely affect the revenues collected by the TSOs. In this context, in March 2022, the national regulators sent a letter to the TSOs asking them to revise the ITC agreement so that the ITC ensures that the TSOs' costs are covered. At the end of March 2022, the TSOs submitted a revised ITC agreement, which is being assessed by the national regulators. It is expected that the common transmission service area between Lithuania and FINESTLAT could be operational from October 2023.

- Article 41(11) of Directive 2009/73/EC

Handling complaints and disputes

In 2021, there have been no changes from the information provided in the report last year.

- Article 41(1)(c) of Directive 2009/73/EC

Cross-border agreements

See: Regional pricing

- Article 41(1)(g) of Directive 2009/73/EC

Coordination of TSO investments

In 2021, NERC made changes to the Procedures for the Assessing and Coordinating of Investments in Natural Gas, Electricity and Liquefied Petroleum Gas:

- Investment projects are divided into categories according to the purpose of the investment project (simplified project categorization);
- Depending on the category to which the investment project is assigned, the procedures and criteria for the financial and/or economic evaluation of the individually coordinated investment project tare provided (the criteria to be met by the project according to the assigned category are clearly stated);
- The assumptions a company needs to estimate when determining the value of an investment project and the size of changes in projected revenues and operating costs have been detailed;
- The procedure for assessing the feasibility of a technical investment project has been described;

- New investment coordination processes are foreseen: projects to replace regulated fixed assets operated by the regulated entity, which are used to purchase services from outside (OPEX projects) and an investment project related to introduction of energy innovations;
- Criteria are set for projects that will allow companies to receive an additional return on investment.

The NERC coordinates investment projects related to the construction of new energy facilities, rebuilding, modernization, reconstruction of existing energy facilities or development of energy facilities currently operating, etc. The Law on Energy provides for an obligation of the NERC to assess the reasonableness of investments. If investments are not coordinated with the NERC, they cannot be recognized as reasonable and are not included in the prices of regulated services. The NERC also coordinates and evaluates 10-year development plans prepared by the TSOs and the DSOs.

In November 2021, NERC coordinated investments of AB "Amber Grid" aligned by common list for a maximum value of EUR 5,420 million Eur. Following the diagnostic results, the company has allocated funds to upgrade individual sections of the main gas pipelines to ensure reliable and safe operation of the gas transmission system. Also, certain gas system dependent subsystems will be replaced, the necessary assets acquired, gas distribution stations upgraded, and investments will be made in the necessary equipment in the cities and towns of Batniava, Butrimonai, Lekėčiai, Nemenčinė, Praviena, Šakiai, Šalčininkai, Vandžiogala, Visaginas, Zapyškis, Pakruojis and Pajiešmeniai. Investments are also being made in software to ensure efficient gas flow management and interactive information exchange between the transmission system operator and system users. This investment improves the speed and reliability of the information provided by the natural gas transmission system to customers and international authorities.

- Implementation of network codes and guidelines

- Network Code for Capacity Allocation Mechanisms
- Network Code on Balancing of Transmission Networks
- Network Code on System Interoperability and Data Exchange

There were no significant changes in 2021 related to the improvement of the implementation of the Commission Regulation (EU) 2015/703 of 30 April 2015 establishing the network code on system interoperability and data exchange rules. The essential changes according to other topics are provided in the following sections - “Access to cross-border infrastructure, including allocation and congestion management” and “Balancing”.

- Tariff Network Code

Considering the fact that, in 2022, Gas Interconnection Poland-Lithuania (GIPL) will become functional, on 16 December 2020, the NERC published the second document for public consultation (the first document for public consultation was published in 2019[15]) on the methodology for setting the prices for the services provided by the TSOs for the remainder of the regulatory period of the gas transmission prices (2022-2023). The consultation was conducted in

[15] https://www.NERC.lt/en/Pages/PublicConsultationontariffmethodologyandindicative20202023tariffsofLithuanianTSOimplementationoftheNetwor.aspx

accordance with Article 26 of the Tariff Network Code (hereinafter - TAR NC) (periodic consultation covering the reference price methodology, tariffs and their derivation; it is mandatory at least once every 5 years) and Article 28 (consultation on discounts, multipliers, and seasonal coefficients).

The determination of the TSO allowable income level and the assessment of deviations from the allowable income and other indicators of the previous year (management of the regulatory account) were not part of this consultation and will be determined in accordance with the Methodology for the Setting of Income and Prices for the State-Regulated Natural Gas Transmission Activities.

It is expected that in 2022-2023 the period of application of specific prices will remain the same as in 2019 and will coincide with the calendar year. The established price regulation period is 5 years, the current price regulation period is 2019-2023.

The consultation covers only the methodological provisions for the rest of the current regulatory period, i.e., the tariff years 2022 and 2023. The transmission service prices, calculated according to the methodology (including the transmission service prices for the new connection with Poland (the new cross-border interconnection point is called Santaka)), their forecasts, and, accordingly, the attached price calculations are based on preliminary data.

Taking into account the opinion expressed in the document "Agency Report - Analysis of the Consultation Document on the Gas Transmission Tariff Structure for Lithuania"[16] published by ACER on 4 July 2019, the public consultation document proposed methodological changes for 2022--2023:

- the level of TSO allowable income approved by the NERC is fully attributed to the transmission service. The costs of gas network units/branches that transmit gas exclusively to meet the needs of Lithuanian customers are identified and directly allocated to the relevant domestic exit point according to the applicable reference price methodology: reflecting real transmission costs, ensuring the absence of cross-subsidization between domestic and cross-border exit points. This methodological change does not have a direct impact on final transmission prices;
- the amount of income collected through volume pricing is reduced from ~23% to 10% of the total allowable income level, and the price per unit of gas transmitted is the same at all exit points (reflecting the amount of costs directly determined by the volume of gas transmitted, i.e., variable costs), thus, ensuring compliance with TAR NC Chapter 4(3). This methodological change has a direct impact on transmission prices, i.e., it reduces the price of the transmitted quantity and it is harmonized at all exit points of the transmission system, as well as it increases the prices of consumption capacity and reserved capacity;
- In order to reflect the related transmission costs and to ensure the absence of cross-subsidization between Lithuanian domestic customers, two Lithuanian domestic exit points are identified based on the significance criterion:
  - domestic exit point – Achema (Achema)
  - domestic exit point (other users of the Lithuanian TSO system)

[16] Agency Report - Analysis of the Consultation Document on the Gas Transmission Tariff Structure for Lithuania,
http://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Publication/Agency%20report%20-%20analysis%20of%20the%20consultation%20document%20for%20Lithuania.pdf

This methodological change does not directly determine the change in final prices but allows maintaining the continuity of the differentiation currently applied at the only Lithuanian exit point between system users transporting up to 10.4 TWh and more than 10.4 TWh of gas per year through the domestic exit point to one natural gas delivery point.

All of these measures allow the requirements set out in Article 13 of the TAR NC to be met: cost reflection, transparency, non-discrimination, avoidance of cross-subsidization, and the promotion of efficient gas trade and competition.

When setting prices for short-term capacity products, the multipliers applied at the entry points are lower than the maximum limits set out in Article 13 of the TAR NC but identical to the multipliers applied to FINESTLAT. In 2022, it is proposed to keep the multipliers at the entry points (including the new Santaka (GIPL) point) at the same level that was set for the 2021 tariff year.

Seasonal coefficients are not applied at the exit points of Kiemėnai and Santaka, as there is no repetitive and strongly expressed seasonality of flows at these points. Thus, multipliers of the same level as at the entry points will be applied at the exit points of Kiemėnai and Santaka. Seasonal coefficients are applied at Lithuanian domestic and Šakiai exit points (from 2022 general seasonal factors are applied taking into account that these points have a similar trend of gas consumption, i.e., these points have a similar seasonality) together with multipliers. Pursuant to Article 2 (1) of the TAR NC, multipliers are unrestricted at points other than cross-border points, but seasonal factors and multipliers reflecting seasonality at these points are applied to the maximum extent (according to the provisions of Article 15 of the TAR NC) at Lithuanian domestic and Šakiai exit points.

Following the public consultation, after taking into account the comments, suggestions and recommendations received during the consultation, as well as ACER's recommendations, and the final level of allowed revenues for 2022 and 2023 as determined by NERC, NERC approved the prices for transmission services applicable as of 1 January 2022 (see the section on "Network and LNG tariffs for connection and access ").

Table 12. *Key technical indicators of the natural gas network*

Indicators	2016	2017	2018	2019	2020	2021 m.
Country's maximum consumption (TWh/day)	0.355	0.355	0.405	0.405	0.405	0.405
Capacity of the gas pipeline entry points (TWh/year)	187.2	187.2	187.2	187.2	187.2	187.6
Capacity of the gas pipeline exit points (TWh/year)	64.53	64.53	66.35	66.36	66.36	66.36
Maximum technical gasification capacity, m^3 /day	10 244 300	10 244 300	10 244 300	10 244 300	10 244 300	10 244 300
Total volume of LNG containers, m^3	170 000	170 000	170 000	170 000	170 000	170 000
Number of TSOs	1	1	1	1	1	1
TSO network (km)	2 115	2 115	2 115	2 113	2 113	2 285
Number of DSOs	5	5	5	4	5	5
DSO network (km)	8 533	8 906	9 091	9 602	9 820	9 986

Source - NERC.

4.2. Promotion of competition and functioning of the market

4.2.1. Wholesale market

Participants and structure of the wholesale market

In 2021, 23 846 GWh of natural gas was sold and/or consumed on the wholesale natural gas market, an increase of 1.92% compared to the 23 397 GWh of natural gas sold and/or consumed in 2020.

Table 13. *Structure of the wholesale natural gas supply market 2014-2021, GWh*

Structure of the wholesale natural gas supply market	2014	2015	2016	2017	2018	2019	2020	2021
Under bilateral contracts in Lithuania	21 548	23 711	18 329	18 856	17 463	18 831	19 710	19 526
On the exchange*	1 134	652	299	376	943	2 711	3 687	4 320
In total	**22 682**	**24 363**	**18 628**	**19 232**	**18 406**	**21 542**	**23 397**	**23 846**
Change compared to 2020, GWh	715	-966	4 769	4 165	4 991	1 855	449	
Change compared to 2020, %	3.15	-3.97	25.60	21.66	27.12	8.61	1.92	

**Natural gas exchange transactions are assessed if the buyer's trading platform is located in Lithuania.*

Source - NERC.

- Monitoring of the price level, the level of transparency, the level of market opening and competition, as well as efficiency

- Article 41(1)(i) of Directive 2009/73/EC

In accordance with the provisions of the Law on Natural Gas, the NERC continuously monitors and controls the compliance of entities operating in the natural gas sector with the requirements of transparency, non-discrimination, and competition in the natural gas sector, licensed or permit-regulated activity conditions and requirements, the protection of consumer rights and legitimate interests, including the reliability of information provided to consumers, established in the Law on Natural Gas and other legal acts. Legal entities operating in the wholesale natural gas market must make publicly available the information provided for in separate legal acts. In accordance with the approved description of information to be made publicly available, the NERC publishes the list of information published by the legal entities of the natural gas sector[17] (hereinafter - List) on the NERC website. In accordance with the aforementioned description, NERC also annually checks legal entities for the manner in which the information contained in the List is made publicly available by the legal entities. Having identified deficiencies in the information made publicly available, NERC draws up recommendations related to the compliance of prices for services within the energy sector with transparency, non-discrimination and other requirements laid down by legislation. Pursuant to the provisions of the Law on Energy, these recommendations are published at least once every 5 years and submitted to the Competition Council of the Republic of Lithuania.

[17]https://www.regula.lt/dujos/Puslapiai/gamtiniu-duju-sektoriaus-ukio-subjektu-viesai-skelbiamos-informacijos-sarasas-.aspx

In order to carry out market monitoring, NERC collects information from regulated legal entities in accordance with the Rules for the Provision of Information of the legal entities of Energy, Drinking Water Supply and Wastewater Treatment, Surface Water Treatment Undertakings approved by NERC. On the basis of the information submitted by undertakings, in order to enhance the awareness of market participants and to ensure that market participants have reliable information, NERC regularly prepares semi-annual natural gas market monitoring reports and annual development reviews and publishes them on the NERC website.

NERC continued to carry out tasks related to the joint monitoring of the natural gas and electricity markets under REMIT. For more information on REMIT monitoring, see review of the Electricity Sector of this report.

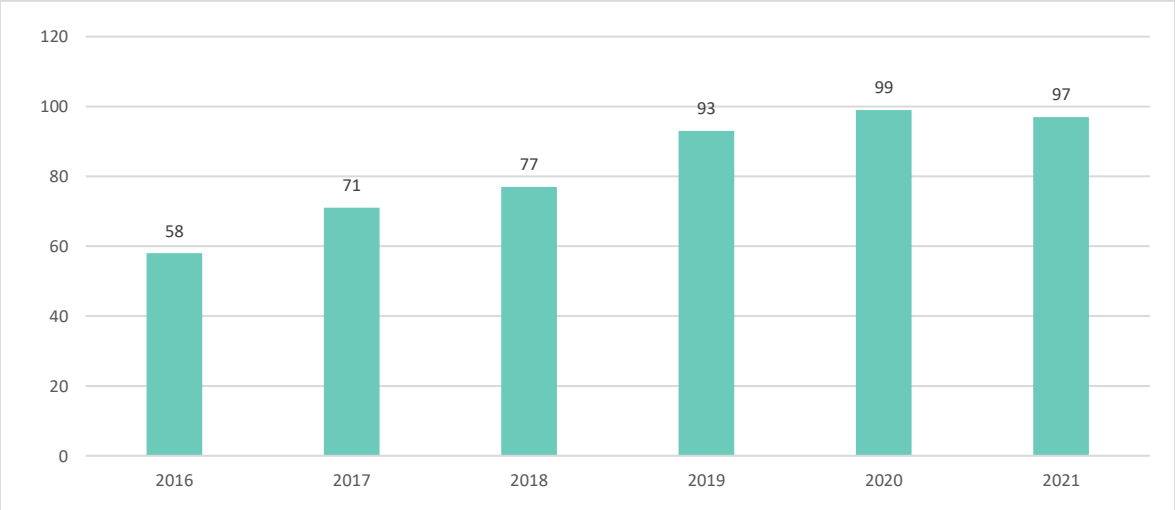
In order to create the preconditions for effective competition within the natural gas markets and to prevent the abuse of significant influence of persons within the natural gas markets, NERC conducts market research in accordance with the Rules for Market Research. Accordingly, NERC regularly publishes market research reports on its website and updates said reports, except for information which is considered confidential, and the final decisions on the market results, or parts thereof, without confidential information. It should be noted that no market research was carried out in 2021.

- Article 41(1)(j) of Directive 2009/73/EC

Trade on natural gas exchanges

At the end of 2021, there were 97 registered participants on the natural gas exchange of UAB "GET Baltic", of which 52 were active.

Figure 24. Number of participants of the natural gas exchange in 2016–2021



Source - NERC.

On 1 January 2020 UAB "GET Baltic", the regional gas exchange operating in the Lithuanian, Latvian and Estonian markets, has successfully launched its operations in Finland, becoming the single regional trading platform for the gas markets of the Baltic States and Finland. 7 956 662 MWh of natural gas was traded on the natural gas exchange of UAB "GET Baltic" in 2021.

Compared to the 2020 period, the volume of natural gas traded on the natural gas exchange of UAB GET Baltic is 9.43% higher.

The average natural gas price on the natural gas exchange of UAB "GET Baltic" in 2021 was EUR 40.21/MWh, or 228.92% higher than in 2020 (EUR 12.22/MWh). In 2021, the turnover of exchange trade amounted to EUR 319.9 million and was 263.17% higher than in 2020.

- Article 41(1)(k) and (l) of Directive 2009/73/EC

In the area of ensuring the secure supply of natural gas, the NERC monitors the main terms and conditions of natural gas supply contracts regarding the ensuring of the reliability of the supply of natural gas between natural gas supply legal entities and customers. To that end, supply legal entities provide information to the NERC on the main terms and conditions of concluded natural gas supply contracts on a yearly basis, while the NERC has the right to require natural gas legal entities to revise said contracts in such a way that they comply with the requirements laid down in the Law on Natural Gas and other legislation. If the natural gas legal entity fails to comply with this requirement, the NERC has the right, protecting the public interest, to appeal to a court for the amendment of the contract. In 2021, a contractual practice that restricts competition was not identified.

Table14. *Natural gas wholesale market indicators for the years 2016-2021*

	2016	**2017**	**2018**	**2019**	**2020**	**2021**
Natural gas production	-	-	-	-	-	-
Number of active wholesale market participants	9	8	11	9	12	14
Share of biogas in the natural gas network	-	-	-	-	-	-
Natural gas demand, GWh*	18 628	19 232	18 406	21 542	23 397	23 846
Gas demand of energy producers	NA	NA	NA	NA	NA	NA
Imports, GWh	24 222	27 374	23 639	28 402	30 487	24 290
Transported via transmission networks to other EU countries, GWh	368	2 599	2 308	5 990	7 960	1 890
Main source of imports and its share, %	Gas pipeline (60.32)	LNGT (54.84)	Gas pipeline (64.68)	LNGT (65.32)	LNGT (65.30)	LNGT (67.26)
Number of natural gas supply sources	2	2	2	2	2	2
Market share of the three largest wholesalers, %	31.40	22.14	24.30	24.09	30.37	32.29
Volume of natural gas traded on the *spot* market of natural gas, GWh	299	442	1 084	2 438	6 641	7 956
Volume of natural gas traded on the forecast natural gas market, GWh	-	-	-	420	565	14
Total volume traded on the natural gas exchange, GWh	299	442	1 084	2 858	7 206	7 957
Average *spot* price of natural gas, EUR/MWh	18.07	17.47	22.87	18.42	12.05	41.43

*Under bilateral contracts and natural gas exchange transactions when the buyer's trading platform is located in Lithuania

Source - NERC.

- Article 41(1)(u) of Directive 2009/73/EC

There were no key changes related to the improvement of the coordination of data exchange processes for key market processes at the regional level in 2021. For additional information see section “Cross-border issues”.

4.2.2. Retail market

- Monitoring the price level, the level of transparency, market opening and competition level and efficiency

Statistics on the retail market for natural gas are provided by assessing natural gas supply legal entities, market participants (natural or legal persons) that conclude natural gas supply contracts with final customers[18].

Figure 25. Market structure by volumes of natural gas purchased in 2015-2021, GWh and %.

Source - NERC.

In 2021, there were 617.7 thousand natural gas customers in Lithuania, of which 609.6 thousand were household customers and 8.1 thousand were non-household customers. In 2020, there were 602.9 thousand household and 7.5 thousand non-household customers.

Household customers, who account for 98.68% of the whole retail market, consumed only 27.77% of the natural gas supplied on the retail natural gas supply market. Non-household customers purchased 72.23% of the volume of natural gas supplied on the retail market, although

[18] Excluding natural gas supply contracts for final customers with a natural gas consumption capacity that exceeds the threshold set out in the second subparagraph of Article 2(1)(5) of REMIT (600 GWh)

their number as customers was very small compared to the number of household customers, at only 1.32%.

Household customer segment

In 2021, 4 companies supplied gas to household customers in the retail market. In 2021, household customers consumed 2 843 GWh of natural gas (26.1% more than in 2020). Household customers paid EUR 57.788 million for natural gas. (23.3% more than in 2020). The increase in revenue is due to an increase in natural gas consumption. UAB "Ignitis" continues to be the main supplier of natural gas to household customers, with a market share of 99.81% of total sales to household customers in 2021.

Tariffs for household customers

Natural gas tariffs for household customers are recalculated twice a year. The natural gas tariff for household customers consists of a fixed part, paid monthly, regardless of the amount of natural gas consumed, and a variable part, paid for the amount of natural gas consumed. Only the variable part of the tariff is recalculated mid-year. The natural gas tariff for household customers includes:

- the forecast natural gas price;
- the price of the supply service;
- the price of the security of supply;
- transmission price (after assessing the Security Component);
- distribution price;
- the difference between the natural gas (product) prices forecast during the previous tariff validity period and the actual prices.

In November 2021, NERC amended the Methodology for Setting State-regulated Prices within the Natural Gas Sector to:

- A new provision has been added that defines the actual cost of borrowed capital of a company and stipulates that it is the weighted interest rate of the company‘s available targeted long-term loans for financing regulated activities. If the company has not concluded such targeted long-term loans, in this case the weighted interest rate of all long-term loans held by the company is used.
- It provides that, at the company's suggestion, a reduced forecast natural gas purchase (product) price may be taken into account in the calculation of natural gas tariffs.
- It is stipulated that NERC can make a decision on the reduction of the forecasted natural gas (product) price and on the fact that the company did not receive or exceeded the expected income due to the arrangement of the difference between the natural gas (product) price included in the tariff and the actual price within a period of no longer than 5 years. Where the NERC decides to reduce the forecast natural gas (product) price, the difference between the reduced forecast natural gas (product) price for that period and the actual natural gas (product) price shall be spread over the period determined by the NERC and shall be taken into account in the determination of the additional component to the natural gas distribution service price of the applied to household customers.
- These changes have helped to amortize the increase in the natural gas product price in tariffs for household consumers of natural gas.

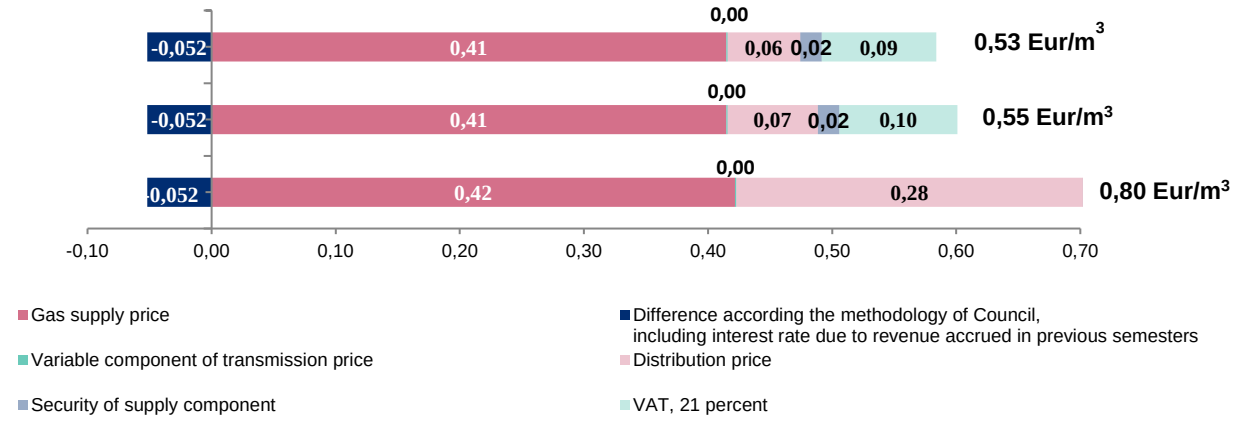
During the first half of 2022, compared to second half of 2021, the fixed part of the tariff (paid irrespective of the volume of natural gas consumed) remained unchanged for all suppliers. The variable part of the tariff (per 1m^3) has changed due to an increase in the price of imported natural gas.

Table 15. *Natural gas tariffs for household customers (Eur incl. VAT/m^3)*

Company	Group	First half of 2021		Second half of 2021		First half of 2022		Change, EUR	
		Fixed part of the tariff	Variable part of the tariff	Fixed part of the tariff	Variable part of the tariff	Fixed part of the tariff	Variable part of the tariff	Fixed part of the tariff	Variable part of the tariff
UAB „Ignitis“	Group I	0.56	0.50	0.56	0.63	0.56	0.80	0.00	0.17
	Group II	3.99	0.28	3.99	0.41	3.99	0.55	0.00	0.14
	Group III	3.99	0.26	3.99	0.39	3.99	0.53	0.00	0.14
UAB „Gren Lietuva“	Group II	3.94	0.39	3.94	0.55	3.94	0.89	0.00	0.34
AB agrofirm „Josvainiai”	Group I	0.63	0.29	0.63	0.40	0.63	0.85	0.00	0.45
	Group II	3.99	0.20	3.99	0.32	3.99	0.75	0.00	0.43
UAB „Intergas“	Group I	1.45	0.32	1.45	0.49	1.45	0.61	0.00	0.12
	Group II	1.45	0.27	1.45	0.44	1.45	0.56	0.00	0.12

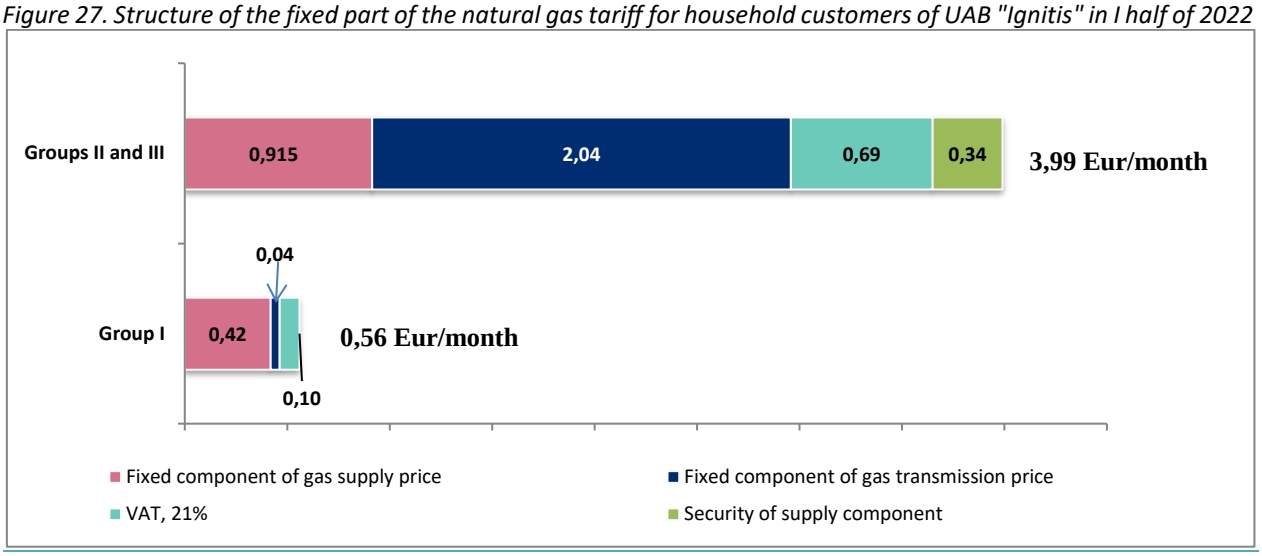
Source: NERC.

Figure 26. Structure of the variable part of the natural gas tariff for household customers of UAB "Ignitis" in I half of 2022



Source - NERC.

Figure 27. Structure of the fixed part of the natural gas tariff for household customers of UAB "Ignitis" in I half of 2022



Source - NERC.

A fixed monthly fee is paid to maintain the functionality of the gas system and to reserve power (securing of capacity) in the main gas pipelines, ensuring that each customer can receive a quality service at any time. The fixed fee also includes accounting and contracting costs (cost of supply).

Competition and market: Retail market

Table 16. *Retail market indicators (household customers)*

Retail market indicators (household)	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Natural gas consumption, GWh	1 879	1 986	2 127	2 079	2 254	2 843
Number of users	566 200	575,314	587 570	595 253	602 978	609 740
Number of registered suppliers	4	4	4	4	4	4
Number of active suppliers	4	4	4	4	4	4
Market share of the three largest suppliers by number of metering instruments	99.96	100.0	100.0	99.98	99.84	99.98
Number of suppliers with more than 5% market share	1	1	1	1	1	1
Number of suppliers with more than 5% of market consumers	1	1	1	1	1	1
Share of customers who have changed their supplier allocated gas volume), %.		0.09	0	0	0	0
Share of customers who have changed their supplier (by number of metering instruments), %		0.46	0	0	0	0
Duration of the change of a supplier established in legal acts	3 weeks	3 weeks	3 weeks	3 weeks	3 weeks	3 weeks
Average duration of the change of a supplier	NA	NA	NA	NA	NA	NA
Number of consumers paying in accordance with the regulated tariff	566 200	575 314	587 570	595 253	602 978	609 740
HHI by sales	9 972	9 981	9 979	9 978	9 968	9 962
HHI by number of metering instruments	9 899	9 992	9 992	9 991	9 991	9 988
Number of interruptions due to unpaid bills	0	0	0	3	0	12
Average price for a customer consuming 9,000 kWh per year, EUR/year	353	383	379	442	289	393

Source - NERC.

Table 17. *Retail market indicators (non-household customers)*

Retail market indicators (non-household)	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Natural gas consumption, GWh	5 192	5 847	4 290	4 299	4 958	5 989
Number of users	6 959	7 168	7 380	7 732	7 458	8 150
Number of registered suppliers		40	33	23	30	36
Number of active suppliers		16	15	16	20	15
Market share of the three largest suppliers by number of metering instruments	98.37	99.33	92.41	94.94	93.20	85.04
Number of suppliers with more than 5% market share	2	2	2	3	2	5
Number of suppliers with more than 5% of market consumers	1	1	1	1	1	1
Share of customers who have changed their supplier allocated gas volume), %.		0.22	6.76	10.68	16.80	24.67
Share of customers who have changed their supplier (by number of metering instruments), %		0.43	1.96	1.96	3.80	7.47
Average duration of the change of a supplier	3 weeks	3 weeks	3 weeks	3 weeks	3 weeks	3 weeks
Average duration of the change of a supplier	-	-	-	-	-	-
Number of customers paying in accordance with the regulated tariff	0	0	0	0	0	0
HHI by sales	7 004	6 958	6 752	5 897	3 704	3 338
HHI by number of metering instruments	9 634	9 666	9 480	9 183	8 150	7 885

Source - NERC.

Monitoring of the retail natural gas market, Article 41(1)(i), (j), (k), (l) and (u) of Directive 2009/73/EC

The NERC carries out scheduled inspections of regulated gas legal entities to determine their compliance with the set cost and price level. In 2021 the NERC has not carried out scheduled inspections of a regulated activities of natural gas companies.

- Customer protection and dispute resolution

- Compliance with Annex I (Article 41(1)(o) of Directive 2009/73/EC)

In accordance with Article 4(3) of the Law on Energy, the NERC, while performing the functions of regulation, supervision, and control of energy activities, ensures, within its remit, the implementation of state policy in the field of protection of customer rights within the energy sector. Safeguards to protect customers are set out in Article 57 of the Law on Natural Gas. No changes were made in 2021.

- Ensuring access to customer data (Article 41(1)(q), Item (h) of Annex I of Directive 2009/73/EC)

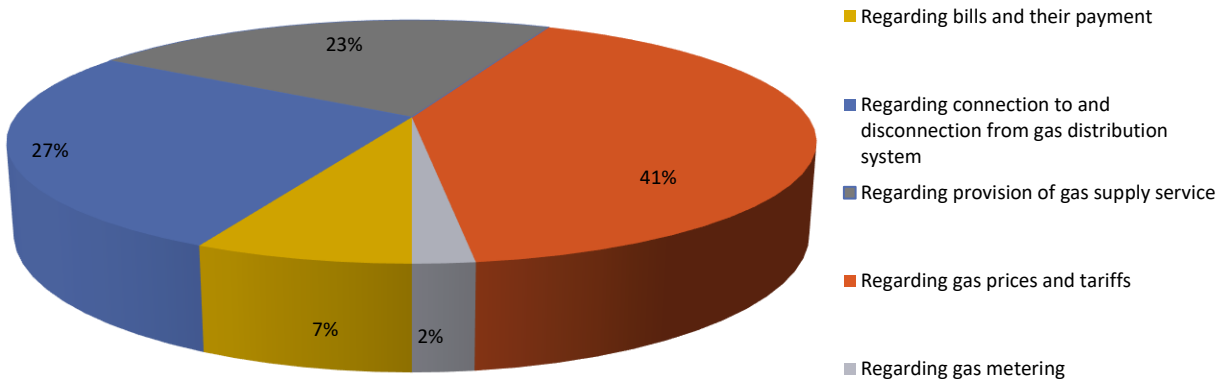
In 2021 the conditions for access to customer data remained basically unchanged. In accordance with the legal regulation, natural gas customers must be provided with adequate and sufficient conditions for access to information and data on actual energy consumption, payments for the amount of energy supplied to them, and/or services related to energy supply. Adequate and sufficient means of access are considered to consist of the submission of an invoice to the customer or electronic access to the customer's payment data, or other reasonable means. Electricity and gas customers receive services and customer service in one place and on the same self-service website www.e.ignitis.lt**.**

- Article 41(11), (4)(e) of Directive 2009/73/EC

In 2021, as well as in 2020, the procedure for receiving and examining complaints remained the same, no changes were made.

2021 NERC received and examined 97 applications. The distribution of received applications according to the nature of the application is shown in the figure below.

Figure 28: Distribution (%) of applications within the gas sector received in 2021 according to the nature of the application



Source - NERC.

Table 18. *Customer protection indicators*

Customer indicators	2017	2018	2019	2020	2021
Number of household customers	575 314	587 570	595 253	602 978	609 749
Number of customers to whom the guaranteed supply is provided	2 683	17	15	0	0
Number of calendar days established in legislation between the notice regarding the payment of a bill and disconnection	15	15	15	15	15
Number of customers disconnected due to unpaid bills	0	0	3	10	12
Number of customers subject to energy poverty	N/A	N/A	N/A	N/A	N/A
Number of customers paying according to the social tariff	N/A	N/A	N/A	N/A	N/A

Source - NERC

4.3. Security of supply

- Article 41(1)(t)

The NERC is not responsible for establishing or implementing the necessary temporary safeguards measures required in the event of a sudden crisis in the energy market or in the event of a threat to the physical protection or safety of persons, or to the security of equipment or installations or to the security of integrity of the system.

- Article 41(1)(h)

Quality of services

The Law on Natural Gas provides for the obligation of the NERC to establish indicators for the quality, including reliability, of services of natural gas legal entities, and the procedure for assessing them.

In 2021, NERC has amended the Description of the Indicators of Reliability and Quality of Services Provided by Natural Gas Undertakings, the Procedure for Their Assessment. The principles of calculating the quality indicators of services provided by natural gas legal entities and setting their minimum levels have been amended and the administrative burden on natural gas supply legal entities has been reduced by waiving part of the reports they have to provide. According to the description of the procedure for the determination of reliability and quality indicators of natural gas services and their assessment approved by the NERC, the minimum quality levels for each gas legal entity are set individually for a specific price regulation period.

The main indicators of the quality of uninterrupted natural gas supply:
- system average interruption duration index (SAIDI) per customer;
- system average interruption frequency index (SAIFI) per system user during the reference period.

The SAIDI and SAIFI indicators are differentiated according to the reasons for interruption.

In October 2021, NERC stated that the actual performance indicators of AB "Amber Grid", UAB "Intergas", UAB "Gren Lietuva", AB Agrofirm "Josvainiai" and UAB "SG dujos" meet the minimum quality levels set for the specific gas legal entity.

AB "Energijos skirstymo operatorius" 2 actual indicators of the quality of activities, i.e., the average duration of interruptions per customer due to the operator's responsibility (SAIDI) and the average number of interruptions per customer due to the operator's responsibility (SAIFI), do not meet the minimum quality levels set for a specific gas legal entity. In view of the above, and in accordance with the procedure set out in the Methodology for Establishing State Regulated Prices in the Natural Gas Sector, the return on investment for natural gas distribution activities for 2020 determined by AB "Energijos skirstymo operatorius" was adjusted by the Resolution of the NERC reducing it by 4 percent.

- Monitoring the balance between supply and demand

The TSO shall prepare and submit to NERC a 10-year network development plan every two years, in consultation with relevant stakeholders and taking into account existing and forecast supply and demand, in accordance with the procedure established by NERC. The Network Development Plan shall contain efficient measures to ensure the adequacy of system capacity and security of supply.

Every year, the TSO and the DSO also submit to the NERC reports on the legal entity's annual activities and ensuring security, specifying the volumes of gas planned to be transmitted, distributed and transported in transit through the territory of the Republic of Lithuania to the system users during the current and the following two years. The TSO shall provide summarised information on the use of the relevant points of the transmission system, indicating in percentage maximum capacity utilization per month for the reference period, compared to the technical capacity of the relevant points.

In recent years, the volume of gas transported through the transmission system to meet Lithuania's market needs has been changing slightly every year: in 2018 – 22.3 TWh, in 2019 – 23.5 TWh, in 2020 – 25.1 TWh and in 2021 – 24.14 TWh. In recent years, the volume of gas in transit to the Kaliningrad Region of the Russian Federation has fluctuated between 26 and 28 TWh. In 2019, the volume of gas in transit has slightly decreased compared to 2018, with a volume of 26.0 TWh, followed by a volume of 24.9 TWh in 2020, and 26.69 TWh in 2021.

Using the alternative created by the LNG terminal in Klaipėda, the supply of gas to the other Baltic countries began through Lithuania. In 2018, 2.3 TWh of gas was transported to customers/supply legal entities of the other Baltic States through the Kiemėnai cross-border exit-point, followed by 6 TWh in 2019, 7.9 TWh in 2020 and 1.9 TWh in 2021.

- Measures to cover peak demand or shortage of suppliers

Under normal conditions of operation of the transmission system and supply to Lithuania, the peak gas consumption is fully satisfied. In the event of gas transmission disruption, the following measures would be used:

- *system users who have concluded uninterrupted supply contracts with a supply legal entity have gas storage stocked in Inčiukalnis Underground Storage Facility;*
- *in natural gas transmission contracts concluded with system users connected directly to the transmission system, priorities of the supply and transportation of natural gas are established and the sequence of restriction and phase-out of gas supply in the event of an emergency or disruption in the gas supply is specified;*
- *supply legal entities must follow the instructions of the TSOs and DSOs in the event of an emergency or disruption in the gas supply, as stipulated in the National Natural Gas Supply Emergency Management Plan.*

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