



KONKURENTSIAMET

ELECTRICITY and GAS MARKETS in ESTONIA REPORT 2022

TALLINN, 2023

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Introduction

Pursuant to subsection 10 of § 93 of the Electricity Market Act, the Competition Authority is obliged to prepare and publish an annual overview of the previous calendar year, which includes the following:

- 1) rules for capacity allocation for interconnections between systems;
- 2) rules for system overload management;
- 3) the time spent establishing and repairing interconnections;
- (4) information to be published by the network operator on interconnectors and on the allocation of network capacity, taking into account the need for commercial confidentiality;
- (5) differentiation of the activities of network operators;
- (6) the conditions for connection of new producers;
- (7) compliance with the obligations of the system operator and the network operators;
- 8) the competitive landscape within the electricity market.

In addition to clause 7 of subsection 3 of § 37 of the Natural Gas Act, the Competition Authority is required to prepare and publish a report on the situation of the security of supply every year.

The 2022 electricity and gas market report has also been prepared in accordance with the requirements of the Council of European Energy.

Next, the Competition Authority will give an overview of the electricity and natural gas market in 2022.

1. Main developments in electricity and natural gas markets in 2022

1.1 Developments in the electricity market

Wholesale and retail electricity market

In 2022 Estonia's electricity system produced 19.3% more electricity than in the previous year – 7533 GWh (net production), with physical import¹ at 7069 GWh and physical export at 6138 GWh. Compared to the previous year, physical import has decreased by 5.3% and export has increased by 27%. Estonia's domestic electricity consumption was 8464 GWh including transmission network losses (7236 GWh without transmission network losses, transmitted by the transmission network for domestic consumption). The consumption patterns of undertakings and households are well illustrated by the relationship between gross domestic product (GDP) and electricity consumption (Figure 1). As more goods and services are produced and purchased, electricity consumption increases, and as purchasing power decreases, electricity consumption decreases. In 2022 electricity consumption has decreased,

¹ Physical import – not the value imported as a result of transactions made on the market, but the physically imported flow.

as electricity prices were extremely high and the consumers were actively saving energy. Compared to 2021, GDP has also slightly fallen.

In terms of wholesale electricity market indicators, the trend continued in 2022, with imports exceeding exports, ie Estonia consumed more than it produced. This trend is likely to continue in the future. However, in 2022 production in Estonia increased significantly compared to 2021.

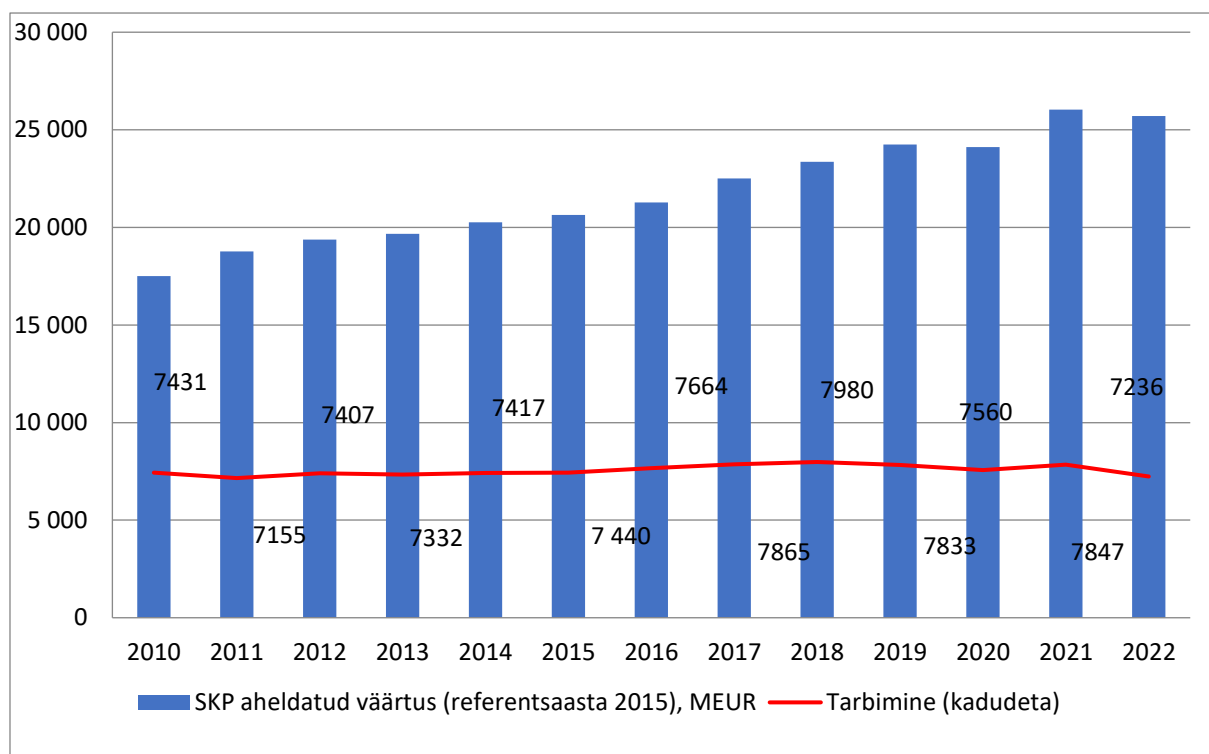


Figure 1. Relationship between electricity consumption and GDP (*Statistics Estonia and Elering AS*)

When electricity prices began to rise in 2021, the significant trend in the electricity market for 2022 has been the ongoing increase in prices, which has occurred not only in our region but throughout Europe, and it has been primarily influenced by the substantial rise in gas prices. In 2021 the Competition Authority prepared a detailed analysis of the formation of electricity prices and the reasons for price increases, which can be found on their website².

In 2022 the average electricity price on Nord Pool power exchange in the Estonian price area was 192.82 €/MWh, a 122.3% rise on the average price in 2021. In 2022 the average household consumer price, including network service, excise duty, and renewable energy charge (excluding VAT), was 273.10 €/MWh.

A more detailed description of the occurrences on the 2022 electricity market is provided in Chapter 2 of the report.

²<https://www.konkurentsiamet.ee/et/elekter-maagaas/elekter/valdkonnatutvustus#Uuringud%20ja%20ekspert hinnangud>

Electricity networks

Estonia has one transmission network service provider, Elering AS, which is also the system operator, and 33 distribution network service providers. The transmission lines (110–330 kV) belonging to the transmission network operator total 5,367 km, and the low- and medium-voltage lines belonging to the distribution networks total 65,800 km. Of the distribution networks, Elektrilevi OÜ has the largest sales volume in terms of end consumption (86.5%).

The average price of the distribution service (household and commercial consumers) for 2022 was 3.35 €cents/kWh (excluding VAT).

For more details on the regulation of electricity networks, see chapter 2.1.

Cross-border issues in the electricity sector

Issues related to cross-border electricity trade and electricity system organisation issues are regulated by several regulations of the European Commission, which are directly applicable to EU Member States. The regulations regulate which issues are dealt with on a national, regional, and EU-wide level, and these principles are assembled into various methodologies prescribed by the regulations of the European Union.

The electricity trade and capacity allocation rules are regulated by Commission Regulation (EU) 2015/1222 adopted on 24 July 2015, establishing a guideline for capacity allocation and congestion management (hereinafter CACM). On the basis of the CACM, by the decision of the European Union Agency for the Cooperation of Energy Regulators (hereinafter ACER), the Baltic capacity calculation region comprises Estonia, Latvia, Lithuania, Finland, Sweden and Poland. Within the framework of the respective capacity calculation region various regional issues are dealt with, which also arise from other directly applicable regulations of the European Commission.

The CACM regulation is supplemented by the European Commission Regulation (EU) 2016/1719 of 26 October 2016, establishing a guideline on forward market capacity allocation (hereinafter FCA), Commission Regulation (EU) 2017/1485 of 2 August 2017, establishing a guideline on electricity transmission system operation (hereinafter SOGL), and Commission Regulation (EU) 2017/2195 of 23 November 2017, establishing a guideline on electricity system balancing and which deals with the issues of reserves and imbalance settlement (hereinafter EBGL).

As a new regulation on 5 June 2019, the European Commission adopted Regulation (EU) 2019/943 on the internal market for electricity. This regulation supplements CACM, EBGL and SOGL principles and introduces new approaches and requirements, such as, for example, the implementation of demand response³, fostering of energy communities, and determination of the value of lost load for energy systems, development of the security of supply standard and better regulation for the use of capacity mechanisms.

The cross-border issues of electricity networks, arising from regulations, are dealt with in Chapter 2.1.5, which also gives an overview of the various methodologies introduced under the regulations in 2022.

³Pursuant to Directive (EU) 2019/944 ‘demand response’ refers to the change of electricity load of final customers from their normal or current consumption patterns in response to market signals, including in response to time-variable electricity prices or monetary incentives, or in response to the acceptance of the final consumer's bid to sell demand reduction or increase at a price in an organised market as defined in clause 4 of Article 2 of the Commission Implementing Regulation (EU) No 1348/2014 (17), whether alone or through aggregation.

Security of electricity supply

The topic of the security of electricity supply has been supplemented in 2020 with the development of a supply reliability standard⁴ and the determination of the value of lost load. These are derived from the need for capacity mechanisms⁵, elaboration of the design of the mechanisms and more efficient regulation of implementation, as provided for by the Regulation (EU) No 2019/943 of the European Parliament and of the Council.

A more detailed overview of the supply security and the interpretation of the reliability standard is presented in Chapter 2.3.

1.2. Main changes in electricity-related legislation

Major national legislative amendments to transpose Directive (EU) 2019/944 of the European Parliament and of the Council on common rules for the internal market for electricity were adopted in early March 2022. Also, a change occurred in the regulation of the electricity market as the universal service regulation came into effect on 1 October 2022, which allowed electricity sellers to provide electricity to household consumers as a universal service, ie a service with a regulated price that is coordinated by the Competition Authority. Thus, Eesti Energia AS is obliged to sell electricity until the end of April 2026 to household consumers and local governments at the price regulated by law, and until the end of 2023 to business customers defined on the basis of the law. The possibility of providing the universal service is guaranteed for other electricity sellers as well.

The production price of the universal service is calculated on the basis of the three most economically cost-effective production units, which are the Auvere Power Plant, the 11th unit of the Balti Power Plant and the 8th unit of the Eesti Power Plant, all based on fluidised bed combustion technology. On 29 September 2022 the Competition Authority did not approve the electricity production price of 181.83 €/MWh for the provision of the universal service of Enefit Power AS and established a temporary production price of 154.08 €/MWh, which is currently valid.

The most important amendments and supplements to the Electricity Market Act that entered into force on 25 March 2022:

- several new concepts were defined with accompanying regulation, such as ‘aggregator’, ‘active user of network services’, ‘storage of electricity’, ‘energy storage unit’, ‘recharging point’, ‘flexibility service’, ‘regional coordination centre’, ‘non-frequency ancillary service’ etc;
- active users of network services and energy community were defined as consumers;
- the criteria required from producers and for establishing a direct line between the power station and the consumer were eased.

The permit obligation no longer applies to a producer that generates and sells electricity that has been produced by a generating installation which they own and which has a total net capacity of up to 1 MW. Also, a possessor of a direct line connected to a generating installation of up to 1 MW will no longer have a permit obligation regarding the direct line;

⁴ When applying reserve capacity mechanisms, Member States will respect the security of supply standard. Security of supply standard indicates in a transparent manner the level of the security of supply required by the Member State.

⁵ Capacity mechanism – a temporary measure to ensure the necessary level of resource adequacy by remunerating resource owners for the availability of resources, excluding support measures and congestion management

- the requirements for persons authorised to manage the distribution network operator were tightened, if at least 100,000 consumers are connected to the distribution network;
- a requirement was introduced that distribution network operators must submit a ten-year network development plan every 2 (two) years, which provides planned investments for the next 5 (five) to 10 (ten) years, mid-term and long-term flexibility services, the possibilities for connecting new-generation production capacity and new loads, including electric vehicle recharging points, to the network;
- charging points for electric vehicles and energy storage units were regulated as ancillary activities of the network operator;
- a requirement was established for distribution network operators, according to which the operator organises public procurements in order to find a provider of important services related to the operation and development of the network. When conducting the procedure, the operator must not give preference to any undertaking associated with it;
- the obligation to apply for a trust mark was introduced as a tool used to compare the offers of electricity sellers.

1.3. Developments in the natural gas market

Wholesale and retail markets for natural gas

The biggest change in the natural gas market in 2022 was a significant price increase, which started already in 2021. There was a record price increase in the title transfer facility (TTF) price of the European gas price index compared to 2021. Russia's war against Ukraine put the natural gas market under severe pressure throughout the European Union in 2022. Several Member States took decisions at the national level to ban Russian gas supplies to the country. As a result of these events, the 60 TWh/a gas demand in the Baltic-Finnish region was covered by the Klaipeda LNG terminal with a capacity of up to 30 TWh/a, the supplies in the Latvian gas storage and the Finnish Inkoo LNG terminal, and an LNG terminal quay was built in the port of Paldiski in Estonia.

Security of natural gas supply

Security of gas supply in the region improved in 2020 with the launch of the Balticconnector gas connection between Estonia and Finland. At the end of 2021 the Baltic-Finnish region was also connected to the Central European gas network through the Lithuanian-Polish connection GIPL, which only began to operate commercially in 2022. While Estonia had a supply of gas to meet the region's demand in 2022, since the beginning of the war in Ukraine in 2022, the security of supply issue has been relevant across the region, but this situation has been resolved by Estonia's strategic gas reserves in the Latvian gas storage facility, the completed Inkoos LNG terminal in Finland and the LNG terminal quay in Estonia.

The security of supply of natural gas for the year 2022 is discussed in more detail in clause 3.4.

1.4. Main changes in natural-gas-related national legislation

Russia's military aggression against Ukraine has significantly disrupted the global energy system. This has led to difficulties due to high energy prices and increased concerns for energy security, highlighting the EU's over-dependence on gas, oil and coal imports from Russia. To solve the problem, steps were taken to reduce energy dependence on Russia. Amendments to the Natural Gas Act entered into force

in 2022, aiming to ensure regulation to guarantee the continuity of the gas system in the event of a long-term disruption of gas supply and to cover the costs of managing strategic gas reserves. The amendments introduced additional bases in the Natural Gas Act for actions to be taken in the event of a long-term disruption of gas supplies, taking into account the needs of market participants, and set out principles for the recovery of costs related to the management of strategic gas stocks.

The law also introduced the basis for dividing gas consumers into consumer groups, as this will allow for further differentiation of consumers in the context of gas shortages, in such a way as to minimise the impact on the functioning of society upon the introduction of restrictions on gas consumption. The act explicitly stipulated the obligation of the system operator to create the capacity to receive liquefied natural gas in Estonia in order to ensure the security of supply, and added the right of all network operators to disconnect the consumer's network connection without prior notice, in addition to the instances where illegal use of gas is detected, also if the consumer does not comply with the restriction or obligation arising from the mandatory gas demand reduction measure established in the event of an emergency. Additionally, the functioning of the gas market and the gas system in the event of an emergency was clarified. According to the additions, the Competition Authority was given the opportunity to issue an injunction to a person who does not comply with the measures for mandatory reduction of gas demand established in the event of an emergency or the instructions or order given by the system operator to limit consumption on the grounds specified by law, or the obligation of the balance provider to limit the supply of gas to non-protected consumers in its balance sheet portfolio.

2. Functioning and regulation of the electricity market

2.1. Regulation of the electricity network

2.1.1. Ownership unbundling

In the second half of 2013 the Competition Authority, based on the request submitted by Elering AS, carried out an assessment of the compliance of the transmission network operator, also known as the so-called certification process. In addition to the provisions of the Electricity Market Act, the Competition Authority in its assessment also followed the requirements provided for in Regulation (EC) 714/2009 of the European Parliament and of the Council (on conditions for access to the network for cross-border exchanges in electricity). The Competition Authority confirmed the compliance of the operator to the requirements through its decision made in December 2013.

The distribution network operator must form a separate company and may not operate in other fields of activity than the provision of network services, including the provision of free market services, if the number of consumers exceeds 100,000. The respective requirement only applies to the distribution network Elektrilevi OÜ that belongs to the Eesti Energia AS group, because other distribution network operators have less than 100,000 consumers.

If a distribution network operator has less than 100,000 consumers, they are obliged to separate the following activities in the accounts:

1. provision of network services
2. sale of electricity
3. ancillary activities

Also, all distribution network operators, regardless of their size, are obliged to keep their accounts on the same principles, as separate operators operating in the same area of activity, would have been required to keep. Therefore, a distribution network operator that is not required to form a separate

business entity is obliged to keep its accounts similarly to a business entity and must submit in its accounts separately the balance sheet, profit and loss account, management report and other reports provided for in the Accounting Act both for network services, electricity sales and ancillary activities. The respective information must be submitted in the annual report and be made public. An auditor must give their assessment on the separation of the areas of activity.

Ensuring of equal treatment

In an open electricity market, equal treatment of market participants is of utmost importance as the electricity network itself creates a position of monopoly. Thus, all consumers of the network operator must be able to use the electricity network in the same way, and the network operator must ensure equal opportunities for all sellers when selling electricity.

The new electricity market regulation introduced in 2019 in the European Union, both in the form of the directly applicable Regulation and the Directive adopted into the national legislation in March 2022, opens up even more options for consumers on the electricity market, by facilitating the ever-deeper involvement of consumers, offering flexible solutions directly for various markets, including reserves for network operators, participation in energy communities, fostering growth of distributed production and the use of energy storage facilities. Europe's green transition and the development of technology, that manifests itself in higher involvement of final consumers in electricity markets and growth of distributed production, but also in more complicated aspects of system control, means that the role of distribution network operators is increasing and getting closer to that of transmission networks – local system control is becoming ever-more important. Ensuring equal treatment of market participants by distribution network operators is of key importance in order to encourage optimal management and development of the network, market development, the introduction of new technologies and to enable the greatest socio-economic benefit from the introduction of new approaches.

Pursuant to the Electricity Market Act, all distribution network operators are obliged to prepare an action plan setting out the measures for equal treatment of other electricity undertakings and consumers, including the duties of employees of the network operator in the implementation of these measures. Separate provisions apply to the system operator (which is also the transmission network operator).

The system operator is obligated to observe the principle of equal treatment with regard to all market participants with the aim of achieving the best economic results for the whole system within the framework of existing technical requirements and requirements for the security of supply as well as other requirements arising from applicable legislation. The act emphasises that when developing standard terms and conditions for balance contracts and setting the price of balancing electricity, the system operator must adhere to the principles of equal treatment and transparency. In addition, all network operators are obliged to observe that the technical conditions established for connection to the network and the principles for calculating the charge payable for connection to the network and for amendment of consumption or generation conditions (connection conditions) are transparent and adhere to the principle of equal treatment. The criteria adopted by a network operator as the basis for establishing network charges must be transparent and comply with the principle of equal treatment.

Equal treatment at Elektrilevi OÜ

Elektrilevi OÜ updates its equal treatment report annually. The report is published on the operator's [website](#):

As the number of consumers connected to the network of Elektrilevi OÜ is higher than 100,000, they are not allowed to produce and sell electricity. That is why Elektrilevi OÜ must acquire a provider of the universal service by conducting a public procurement procedure (subsection 2 of § 76¹ of the Electricity Market Act). The public procurement requirement was established in March 2022 under amendments to the Electricity Market Act. Previously, it was sufficient for the network operator to be designated by the seller. For the provision of universal service and in the capacity of selling of electricity in an event of interruption of the open supply chain, Elektrilevi OÜ has designated Eesti Energia AS, with which it is affiliated, as the seller.

Eesti Energia AS also represents Elektrilevi OÜ in concluding, amending and terminating network contracts, and Elektrilevi OÜ uses certain functions of Eesti Energia AS, such as billing, debt management, call centre etc, to perform its tasks. However, Elektrilevi OÜ neither concludes electricity sales contracts nor resolves other electricity sale issues.

Equal access to the metering point data and to the measurement information is ensured by the means of the data exchange platform (hereinafter DEP) which was created on the basis of § 42¹ of the Electricity Market Act. Elektrilevi OÜ transmits to the DEP the data stipulated by legislation in order to ensure the acquisition of information by the market participants in a timely manner and on an equal basis.

Based on the amendments to the Electricity Market Act adopted in March 2022, the distribution network operator may no longer own storage devices or charging infrastructure for electric cars, unless the Competition Authority has granted a separate exemption.

From the perspective of equal treatment of market participants, transparent communication of available surplus connection opportunities and non-discriminant treatment of connection applications is extremely important. Article 31 of Directive (EU) 2019/944 of the European Parliament and of the Council sets out that the distribution network operator will not discriminate between system users or classes of system users, particularly in favour of its related undertakings, as well as that the distribution system operator should provide system users with the information they need for efficient access to, including use of the system.

As a positive development, Elektrilevi OÜ uses the map application (<https://www.elektrilevi.ee/vabad-voimsused>) to publish an overview of the availability of free capacities and capacities in various substations, similarly to the transmission network operator Elering AS. Such an approach improves the transparency of access to the network and enables network users to obtain necessary information more easily. Yet, the network operator has to take care that the presented information is always sufficiently updated.

In connection with the new electricity market regulation introduced in 2019 in the European Union, where the relevant directive sets out limitations on the distribution networks to have charging infrastructure for electrically driven vehicles, to have storage equipment, and provides more specific rules on the procurement of services and goods on a market basis, the Electricity Market Act was amended in March 2022, and among other things, amendments were introduced on the basis of which distribution network operators may no longer own storage devices or charging infrastructure for electric cars and must obtain flexibility services from the market in the form of public procurements. The developing electricity market and the transition to climate neutrality make distribution networks an increasingly important participant in the organisation of the market, primarily as a user of flexibility services.

The Competition Authority examined the equal treatment action plan of Elektrilevi which, besides the mechanisms and principles of equal treatment of market participants, also considers the aspects of ensuring of independence of Elektrilevi OÜ management. Ensuring the independence of Elektrilevi as the largest distribution network (86.2% market share⁶) is extremely important, especially in the context of Estonia, where it is a company with a very large market share.

In connection with the new vision of the directive in relation to the limitations imposed on the distribution network, Eesti Energia Group made important changes in the structure and management of Elektrilevi as of 1 January 2021. An additional company, Enefit Connect, was established, to which most of Elektrilevi's staff and most of Elektrilevi's previous activities were transferred. Around 30 of the more than 700 workers previously employed by Elektrilevi were retained in the company. In relation to this major change, the Competition Authority conducted an analysis in 2022 to make a thorough assessment of the independence of Elektrilevi.

As a result of the analysis, the authority came to the conclusion that in regard to the issue of whether Elektrilevi OÜ is sufficiently transparently independent from other companies belonging to the Eesti Energia AS Group, the main point of concern is the removal of Elektrilevi OÜ's control centre from the company. In addition, the distribution network operator transferred to Enefit Connect OÜ many other services that meet the criteria for the main activity of the distribution network operator. According to the authority, the implemented reform did not in any way improve the independence of the company and does not match the purpose of Directive (EU) 2019/944 of the European Parliament and of the Council, which provides clear guidelines for strengthening the independence of distribution networks. In the opinion of the Competition Authority, the ownership unbundling of Elektrilevi OÜ from the Eesti Energia AS Group would certainly contribute to ensuring better transparency and independence of Elektrilevi OÜ's activities. The results of the analysis can be found in more detail on the Competition Authority's website.⁷

2.1.2. Technical functioning

The Estonian electricity system belongs to the large synchronously operating joint system BRELL, comprising the neighbouring countries Latvia and Russia, connected with Estonia through the alternating current lines. They, in turn, are connected to their neighbours Lithuania and Belarus. Estonia is connected with Russia through three 330 kV lines (two lines go from Narva to St. Petersburg and Kingissepp, and one line from Tartu to Pskov); with the Latvian electricity system through three 330 kV lines (one between Tartu and Valmiera, the other one between Tsirguliina and Valmiera and the third one between Kilingi-Nõmme and Riga). The latter became operational at the end of 2020. Two direct current cables (EstLink 1 and EstLink 2) connect Estonia to Finland.

The total length of the transmission lines (110–330 kV) that belong to the transmission network operator is 5135 km, while the total length of the low- and medium-voltage distribution network lines is 66,126 km.

⁶As of 2020. In 2021 a concentration took place as a result of which the networks of Imatra Elekter AS were added to those of Elektrilevi and so the share of Elektrilevi increased even more.

⁷ <https://www.konkurentsiamet.ee/et/uudised/konkurentsiameti-hinnang-elektrilevi-ou-soltumatusele-ja-vordset-kohtlemist-puudutavale>

ELERINGI ELEKTRI ÜLEKANDEVÕRK

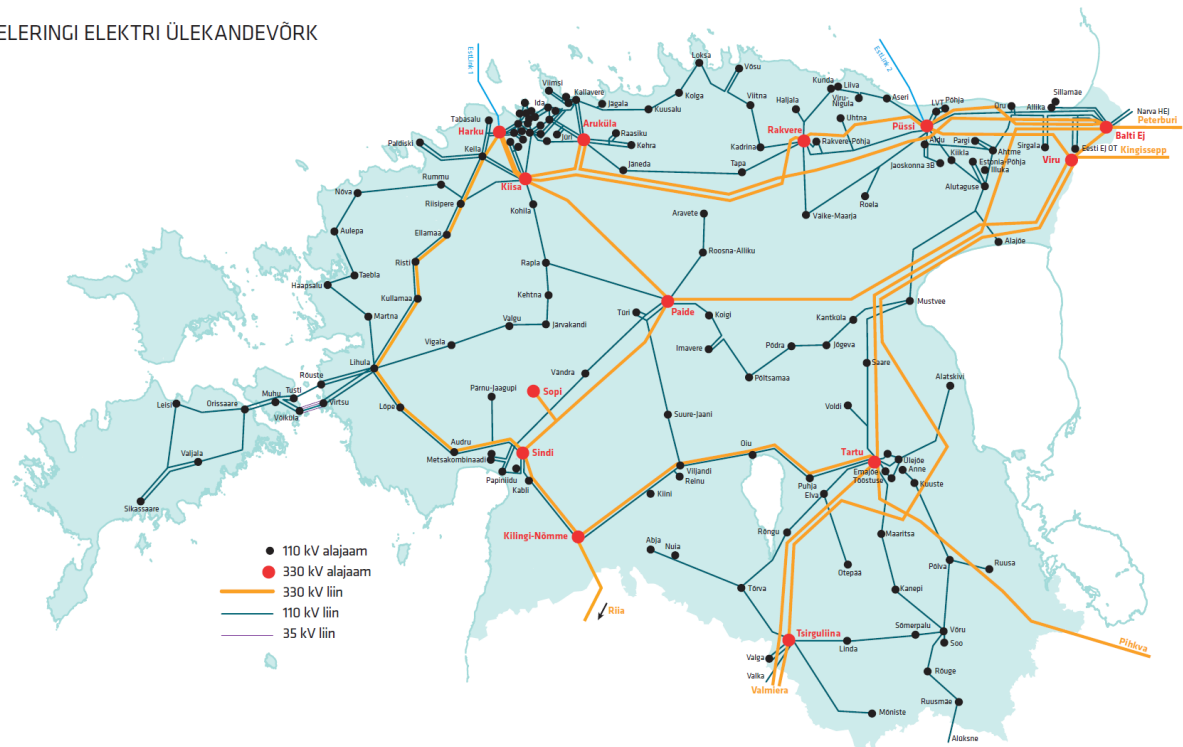


Figure 2. Map of the Estonian electricity system (*Elering AS*)

In Estonia the transmission network operator, as well as system operator, is Elering AS. As of the end of 2022 there were 33 distribution network operators. The largest distribution network operator is Elektrilevi OÜ, whose sales volume in 2022 was 6,779 GWh, the operator's market share based on sales volume was 86%. It was followed by VKG Elektrivõrgud OÜ, with sales volume of 243 GWh and a market share of 3%, Imatra Elekter AS, with sales volume of 224 GWh and a market share of 3%, and Loo Elekter AS, with sales volume of 90.2 GWh and a market share of 1%. The other 29 distribution networks had a combined sales volume of 507 GWh, giving them a market share of 7%. In 2021 Elektrilevi OÜ acquired Imatra Elekter AS, and as a result, Elektrilevi's market share increased to 89%⁸. After the analysis, the Competition Authority gave permission for the merger. Although this is an increase in the market share of the distribution service, the authority had no reason to prohibit it, because a natural monopoly expanded its activities at the expense of another natural monopoly. Yet, Elektrilevi did not acquire the electricity retail parts of Imatra, because there is competition in the market.

⁸ Although Elektrilevi OÜ acquired Imatra Elekter AS in 2021, currently they are still separate undertakings.

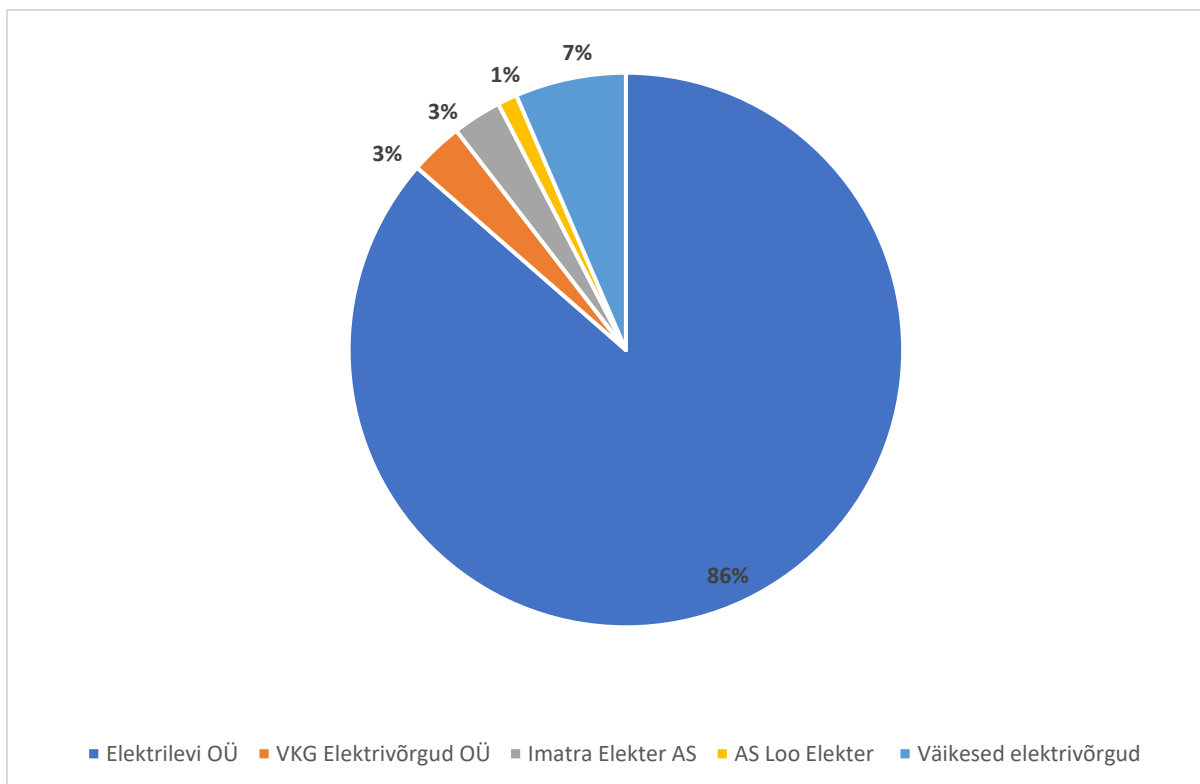


Figure 3. Percentage of market share of distribution network operators in 2022⁹

Table 1. Indicators of technical functioning (*Inquiry by the Competition Authority*)

Indicator	2021	2022
Peak consumption, MW	1552 (7 December 2021)	1473 (11 January 2022)
Number of transmission network operators	1	1
Length of the network (km) of the transmission network operator	5,367	5,135
Number of distribution network operators	34	33
Length of the distribution network (km)	65,800	66,126

According to Table 1, peak consumption has fallen in 2022, compared to 2021. The decrease in peak consumption can be attributed to the energy crisis, which led to a decrease in electricity consumption.

2.1.3. Quality of electricity supply

The quality requirements of electricity supply arise from the Electricity Market Act, pursuant to which the requirements are established by the Minister of Economic Affairs and Communications. Compliance with the quality requirements is mandatory and violations can lead to sanctions being imposed. The quality requirements contain requirements for quality of service and acceptable duration of supply interruptions caused by failures or planned activities. The

⁹ In 2021 the concentration of Elektrilevi and Imatra took place.

Competition Authority monitors compliance with the quality requirements, adequacy of undertakings keeping records on quality indicators and initiates misdemeanour proceedings in the event of violation. Disclosure of relevant quality indicators on their websites is obligatory for all network operators.

The quality requirements for services specify the time limits within which the operator must perform the corresponding operation. If previously the relevant market participant had to be notified of a planned interruption at least 2 (two) days in advance, now the requirement is at least 2 (two) working days.

Regarding the quality of the network service, both (non-planned) and planned interruptions caused by failures are regulated. An interruption of the electricity supply for up to 3 (three) minutes is not considered an interruption. In accordance with the quality requirements, time limits are set during which the interruptions caused by the failure must be eliminated, while separate time limits are set for the summer and winter periods. Table 2 also shows the amendments made to the regulation.

Table 2. Network service quality requirements

	Summer period from April to September	Winter period from October to March
Transmission network		
Acceptable interruption duration caused by failure	2 hours * / 120 hours ** / 3 days from the end of event ***	
Acceptable total annual interruption duration caused by failure	150 hours, from 1 October 2021: 120 hours	
Distribution network		
Acceptable interruption duration caused by failure	12 hours / 3 days from the end of event ***	16 hours / 3 days from the end of event ***
Acceptable planned interruption duration	10 hours	8 hours
Acceptable total annual interruptions duration caused by failure	70 hours* / 150 hours**, from 1 October 2021: 50 hours* / 100 hours**	
Acceptable total annual planned interruptions duration	64 hours	

Notes:

* Power is supplied through two or more 110 kV transformers or lines.

** Power is supplied through a single 110 kV transformer or a line.

*** If the interruption was caused by an event that was objectively impossible for the network operator to forestall or prevent (such as a natural calamity, winds or ice build-up exceeding the design standards of the lines, military hostilities), the interruption must be eliminated within 3 (three) days following the end of the event.

If operators fail to comply with said quality requirements, they are obliged to reduce the network charges of customers as a compensation. The rates and the procedure for the calculation of reduced network charge is established in § 7 of the Regulation ‘Quality Requirements for Network Services and the Conditions for Reducing Network Charges in case of Breaches of Those Requirements’.

Completion and disclosure of the report form developed by the Competition Authority is mandatory for operators. At the same time, operators are obliged to disclose information on how many times and how many connection points the network quality did not meet the established requirements. Data must also be provided on how many times the prescribed service quality requirements were not met.

Information on network quality is published on the Competition Authority's website. <https://www.konkurentsiamet.ee/et/elekter-maagaas/elekter/jarelevalve>. The authority takes these into account in the process of price proceedings of network charges.

Although the reliability of Estonian electricity networks has increased, the networks are still dependent on the weather, and the reliability of the networks suffers in extreme weather conditions. It is an important fact that there has never been a complete blackout of the system in Estonia, which is primarily an indication of Elering's good work. Regarding electricity distribution networks, it is possible to achieve an increase in reliability through large-scale investments, but this would also lead to a significant increase in network charges.

An overview of the fulfilment of quality standards in 2022 is provided in Table 3. Out of all failure-induced interruptions in distribution networks, 1.4% did not meet the quality standard. In 2022 all of the failure-induced interruptions in the transmission network met the quality standard.

Table 3. Compliance with quality norms of network service in 2022 (Information inquiry by the Competition Authority)

Interruptions	Time limit			TOTAL Distribution networks			Elering AS, transmission network		
	Transmission network	Distribution network		Total	Not complying with QRFNS	Complying with QRFNS	Total	Not complying with QRFNS	Complying with QRFNS
		1 April to 30 September	1 Oct to 31 March						
Number of interruptions due to failure caused by force majeure (eg natural disaster) QRFNS § 4 (3)	3 (three) days after the incident			33,372	117	33,255	0	0	0
Number of interruptions due to failure QRFNS § 4 (4; 5) (except failures specified in clause 1.1 and 4 ¹ failures)	2 hours if supply is provided with 2 or more 110 kV transformers or lines	12 hours	16 hours	1,198,270	19,809	1,178,475	8	0	8
	within 120 hours (if supply is provided with a single 110 kV transformer or line)	within 72 hours (if supply is provided with a single 110 kV transformer or line)							
Number of points of consumption where the total annual duration of interruptions caused by failure exceeded the limit QRFNS § 4 (6, 6 ¹)	150 hours, from 1 October 2021: 120 hours	50 hours (up to 100 hours if powered by a single 110 kV transformer or line)			4,110			0	
Number of scheduled interruptions QRFNS § 4 (7)	up to 10 hours from 1 April to 30 September and up to 8 hours from 1 October to 31 March	10 hours	8 hours	324,481	575	323,903	31	0	31
Number of consumption points where the total annual duration of interruptions caused by failure exceeded the limit under QRFNS § 4 (8)	64 hours	64 hours			91			0	

Time taken by the transmission network operator to make new grid connections and repairs to cross-border network connections

Connection to the electricity network is regulated by the Grid Code established by Regulation No 184 of the Government of the Republic on the basis of subsection 2 of § 42 of the Electricity Market Act. In order to connect to the main network, a connection application must be submitted to Elering AS, on the basis of which the applicant will be issued a connection offer within 90 (ninety) days. If the customer wants to connect in an area where the network transfer capacity is not sufficient and the customer does not accept the connection offer together with the cost of construction and strengthening of the network, the network operator will notify the customer and the Competition Authority within 30 (thirty) days from the receipt of the connection application from the customer that a connection in the specific network area is impossible. If the data presented in a connection application is insufficient or does not comply with the requirements, the network operator will notify the customer thereof in 10 (ten) business days from the receipt of the application and the customer has 15 (fifteen) business days from the receipt of the network operator's notice to bring the application into compliance with the requirements. In order to connect a connectee's electrical installation to the network, or to amend the consumption or production conditions, the network operator will conclude a connection contract with the connectee.

For the functioning of the electricity market, it is necessary that the market participants have timely information on the capacity of the power connections and possible connection interruptions. The transmission network operator is obliged to disclose the information on cross-border transmission capacity and limitations on the transmission capacity in connection with planned interruptions and repair works. Table 4 presents the data submitted by Elering AS on the time spent on interruption of interconnections between networks in the years 2018–2021. The interruptions in the electricity network are primarily caused by network repair, development and maintenance works, as well as network failures (due to old and worn-out lines, storms etc).

Table 4. Time spent by Elering AS for interruptions of network interconnections

Line	Interruption duration (hours), 2019	Interruption duration (hours), 2020	Interruption duration (hours), 2021	Interruption duration (hours), 2022
L301 Tartu – Valmiera	257	81.32	964.92	8,760
L354 Tsirguliina – Valmiera	797	102	373.02	33
L358 Tartu – Pihkva	566	242.53	328.95	397
L373 Eesti EJ – Kingissepp	135	151.1	538.74	604
L374 Balti AJ – Leningradskaja	120	51.74	1,189.86	217
L677 Tsirguliina – Valka	579	372	265.25	2,483
L683 Ruusmäe – Aluksne	71	362	127.14	162
LN3	0	0.00	0	0
Total	2,525	1,362.69	3,787.88	12,656.00
incl ordered by neighbouring systems	1,305	996.07	2,913.81	1,309
EstLink 1	139	219.59	58.01	421.17
EstLink 2	218	220.53	504.48	48.98
incl ordered by neighbouring systems			557.12	
Total interruptions of network interconnections	2,882.00	1,802.81	4,350.37	13,126.15

AC lines had more scheduled interruption hours in 2022 than in previous years. This is mainly due to network developments in preparation for synchronisation with the Central European network (the Tartu–Valmiera line was upgraded).

The Competition Authority carried out a supervisory proceeding in 2022–2023 against Elektrilevi OÜ in relation to the large-scale disconnection of the network in Saare County between 8–16 December 2022¹⁰. As a result of the supervisory proceeding, the Competition Authority did not find any violation of the law, but it turned out that Elektrilevi failed to meet the requirements of the network service quality requirements of the regulation on the permissible duration of power outages in a total of 1,100 customer consumption points, for which Elektrilevi reduced network charges by a total of 28,512 euros.

The Competition Authority considers that in this case the network operator lacked sufficient planning capacity to deal with the large-scale failures. Sufficient planning capacity, including by mapping in advance the parties with special equipment and competences, would have made it possible to restore electricity supply in Saaremaa much faster. As 35 kV lines are important for ensuring the security of electricity supply to consumers in Saaremaa, the Competition Authority is of the opinion that trees in the protection zone of the lines that pose a threat to the lines should be removed, and that it is important for Elektrilevi to intensify its monitoring activities (eg the use of drones) in order to identify and then remove the trees that pose a threat to the lines.

In regard to the distribution network, it is important to reduce the share of weather-sensitive bare conductors and gradually weatherproof the electricity network, which requires a higher level of investment in weatherproof lines. At the same time, it is also important to ensure the stability of consumer tariffs, as a result of which the impact of increasing the level of network reliability on network charges must not exceed the level of inflation. In connection with the above, Elektrilevi is obliged to submit the network development plan together with the planned investments to the Competition Authority for the next 5 (five) to 10 (ten) years pursuant to subsection 10 of §66 of the Electricity Market Act.

In addition, the Competition Authority found that there are no clear requirements in the contracts of Elektrilevi and its partners (companies that eliminate power outages) that ensure that Elektrilevi is able to fulfil its obligations arising from the law. The authority considers that the contracts must set out clear requirements, including control mechanisms for dealing with blackouts caused by severe weather conditions.

As a network operator, Elektrilevi uses the services of its partners to a significant extent for the performance of its tasks arising from the law. Enefit Connect, a company which belongs to the same group as Elektrilevi, is engaged in the operational management of the elimination of power outages, and Enefit Connect is also responsible for attracting both internal resources and partner resources for need-based localisation and elimination of faults. Regardless of which business model is used, Elektrilevi is responsible for the operation, maintenance and development of the distribution network in its service area, as well as for eliminating power outages. The Competition Authority also takes the view that Elektrilevi needs to critically review its business model in relation to the outsourcing of services from Enefit Connect and that strategic services (such as the electricity network control centre service) need to be provided internally by Elektrilevi.

¹⁰

https://www.konkurentsiamet.ee/sites/default/files/av_jarelevalvemenetluse_aruanne_elektrilevi_ou_tegevuse_suhtes_seoses_vorguuhenduse_katkestustega_saare_maakonnas.pdf

2.1.4. Access to the network and network service price regulation

Under the Electricity Market Act uniform price regulation is applied to all network operators regardless of their size. In 2022 there were 33 distribution network operators and 1 transmission network operator in Estonia.

The Competition Authority approves separately the following network charges and methodologies:

- network service charges (for transmission and for enabling the use of a network connection);
- ancillary services provided by the network operator (eg replacement of the main protective fuse or sealing of meters at the consumer's place and other such services);
- methodology for calculating connection charge;
- methodology for pricing of balancing electricity.

The prices for balancing electricity and the charges for transit of electricity are not subject to approval, but the authority is obliged to monitor justification of the prices, ie apply so-called *ex-post* regulation.

Although clause 3 of Article 18 of Regulation (EC) no 2019/943 allows charging producers for the transmission, Estonia has not applied this possibility so far.

The approval of prices takes place upon application by the undertakings/operators. This means that operators always have the option to submit an application for the approval of new network charges. New network charges must be approved if the operator finds that the operating cost, capital cost and the justified profitability that were the basis for the approval no longer ensure the network charges' compliance with the requirements specified in § 71 of the Electricity Market Act. If necessary, the Competition Authority has the right to verify whether the valid network charges comply with the act. In order to ensure network operators the opportunity to set long-term goals, plan their operations and to fulfil their legal obligations, the Competition Authority reviews the network operator's investments in the process of price approval.

The Competition Authority's methodological manuals 'Standard Methodology for Calculating of Electricity Network Charges'¹¹ and 'Manual to Calculate Weighted Average Cost of Capital'¹² are published on the Authority's website.

As the transmission network operators incur additional costs/revenue as a result of transit flows, a so-called compensation fund has been established between the transmission network operators of the EU Member States (ITC fund) to which all transmission system operators are contributing and which is used to compensate for the costs of all transmission operators participating in the transit. Among other things, clause 3 of Article 4 of Regulation (EC) No 2019/943 sets out that upon establishing the network charges, the payments to and receipts from the inter-transmission system operator compensation (ITC) fund will be taken into account¹³. Since the execution of the Regulation is mandatory to Estonia, the

¹¹https://www.konkurentsiamet.ee/sites/default/files/3_2_elektrienergia_vorgutasude_arvutamise_uhtne_metoodika.pdf

¹² https://www.konkurentsiamet.ee/sites/default/files/juhend_kaalutud_keskmise_kapitali_hinna_ar.pdf

¹³ The English regulation uses the term *Inter-Transmission System Operator Compensation Mechanism*. The abbreviation ITC is also common.

Competition Authority also takes into account the costs arising from the ITC fund in the approval of the transmission network operator's network charges.

The price regulation of the transmission network operator's network services also takes into account the congestion revenues resulting from the interconnection of cross-border networks.

Electricity network charges approved in 2022

In 2022 electricity network charges of 12 network operators were coordinated, whereas for 4 of which the changes in network charges were only coordinated due to the changes in variable costs (the cost of purchasing network services and/or the cost of purchasing electricity to cover network losses). For most network operators, their network charges were coordinated more than once during 2022, mainly due to a significant increase in the price of electricity purchased to cover network losses. As a result of the above, the changes in network charges were also steeper than usual – for example, in the case of Elektrilevi OÜ, the largest distribution network operator, the total network charges coordinated on several occasions during the year increased on average by around 30%. Changes in network charges have been of a similar magnitude for several other network operators.

Charges for connecting to electricity network

Connection to the electricity network is regulated by the Grid Code established by Regulation No 184 of the Government of the Republic on the basis of subsection 2 of § 42 of the Electricity Market Act. Chapter 5 of the Grid Code sets out the requirements for connecting a customer's electrical installation to the distribution network of a network operator. In order to connect to the main network, a connection application must be submitted to Elering AS, on the basis of which the applicant will be issued a connection offer within 90 (ninety) days. A distribution network operator will issue a connection offer within 30 (thirty) days from the receipt of the application or from performing an action necessary for the transmission network operator.

The connection offer must contain the location of the connection point or the metering point of the customer's electrical installation, the amount of the connection charge and the calculation thereof, the conditions for connecting to the network and the conditions for amending or termination of the connection contract. The charge for connecting to the transmission network is determined on the basis of the cost pursuant to the principles outlined in the Grid Code. In the calculation of the charge for connecting to the network the justified costs in making the connection are considered. The connection charge includes the necessary and justified costs for connecting the new consumption capacity or for the amending of existing consumption conditions, including the cost of construction of new electrical installations or re-construction of existing ones. Herewith it is important that the charge for connecting to the distribution network is calculated according to the methodology approved by the Competition Authority. For the preparation of the methodology the Competition Authority has published on its website 'Guidelines for preparation of methodologies for approval of the charge for network connection and amendment of consumption or production conditions'.

On 24 December 2022 the authority approved amendments to the standard terms and conditions of the connection contract of Elektrilevi OÜ. The amendments stipulated that the connectee has the right to use the connection within 3 (three) years from the date of connection, under the terms and conditions agreed upon in the connection contract. After 3 (three) years, the network operator is no longer obliged to provide the connectee with connection under the terms and conditions agreed upon in the connection contract. The purpose of the addition was that the existing free network resource would also be implemented by consumers to the maximum extent possible.

The wording of the terms and conditions was also clarified in such a way as to regulate the reimbursement of reasonable expenses incurred for the performance of the connection contract by both the connectee and the network operator upon termination of the connection contract.

In 2022 the Competition Authority conducted supervisory proceedings against the activities of Elektrilevi OÜ in connection with the refusal to provide network services in Hiiumaa¹⁴. As a result of the supervisory proceedings, the Competition Authority found that Elektrilevi still needs to issue connection offers in Hiiumaa despite the network constraints and recommended that in addition to cost-based connection offers, connectees should also be offered the possibility of flexible connection, which would take into account certain limitations of the network. Especially in regions where cost-based connection is very expensive, as in Hiiumaa. At the same time, the authority has advised Elektrilevi to accelerate the work on the development of the capability for remote control of production modules and the functionality for managing manufacturers arising from the network mode. The authority has pointed out that, in addition to consumption forecasts and fault statistics, it is important to take into account the growth forecast for distributed production and the availability and usage of network flexibility, including the existence consumption management and the capacity of the usage thereof when developing the network and recommended that forecasts for the development of the network, including distributed production forecasts, should be reviewed by Elektrilevi on a regular basis (at least every year) and updated if necessary.

In addition, the Competition Authority has drawn Elektrilevi's attention to the fact that Elektrilevi should immediately start public procurement for the provision of network flexibility services and/or support services in accordance with § 66² and § 66³ of the Electricity Market Act in order to alleviate the situation of network congestion and to improve the efficiency of network operation, and has recommended that Elektrilevi should start the preparation of a network development plan pursuant to subsections 8 and 9 of §66 of the Electricity Market Act, and also take into account the use of flexibility services as required by law.

As a result of the supervisory proceedings, the authority also recommended that Elektrilevi should find a way to accelerate the development of the network in areas where there have been problems with the addition of distributed production capacity, including in Hiiumaa, in order to avoid exacerbating a situation where, despite the national expectation of the green transition, there are market failures to add renewable energy capacity even on a very small scale (for example, for rooftop solar panels for household consumers). However, network charges must not increase disproportionately as a result, and investments in network charges, in particular network reinforcements with a local impact, must be socio-economically justified. Thereat, the authority pointed out that the aim of distributed production is to save energy and reduce the carbon footprint, ie, it is best to produce and consume as much electricity as possible locally. Therefore, in addition to local network reinforcements, alternative investments to increase network management flexibility must be considered. In addition, the company should create opportunities for the creation of energy communities, as provided for in §12² of the Electricity Market Act, to develop regional grid management, with the aim of increasing the capacity of distributed production in problematic grid areas. The main objective of energy communities is to provide environmental, economic or social benefits to their members or the region, rather than financial gains, ie in an energy community, distributed production would be used primarily to cover the electricity consumption of the community. Such an approach will make it possible to limit the amount of generating capacity dispatched by energy communities to problematic network areas.

¹⁴ <https://www.konkurentsiamet.ee/et/uudised/elektrilevi-kohustatud-hiiumaal-liitumispakkumisi-valjastama>

2.1.5. Balance services

The Electricity Market Act and the Grid Code set out a detailed regulation of balance responsibility according to which every market participant is responsible for its balance. The transmission network is responsible for the balance of the whole system and several balance providers may operate on the market. In order to balance the system, the transmission network buys or sells balancing electricity. The methodology for calculation of the price for balancing electricity and standard terms and conditions for balance contracts and regulation agreements are to be approved by the Competition Authority in advance. In the formation of the balancing electricity price the transmission network is obliged to buy or sell balance electricity at the most favourable price possible.

As of 1 January 2017 all consumption points are equipped with remote reading devices and the entire metering process is organised under the on-line principle. The measured supplies that are necessary for imbalance settlement are collected from the metering points and forwarded to the data hub by all network operators operating in Estonia.

As of 1 January 2018 a coordinated balance management is applied in the electricity systems of Estonia, Latvia and Lithuania. Estonia, Latvia and Lithuania are viewed as a single balancing zone, and one of the Baltic system operators is responsible for balancing the total balance of the entire Baltic region. The goal of the coordinated balancing zone is to increase the cost-effectiveness of power system management, including reducing non-system imbalances in the Baltics.

In accordance with the principles of the functioning of the electricity market, each market participant must ensure that the amount of electricity supplied to the network and/or purchased by the market participant in each trading period is equal to the amount of electricity acquired from the network and/or sold by the market participant. The distribution network operator is responsible for the balance of small consumers. The biggest balance provider is Eesti Energia AS, in addition to which eleven other balance providers are active. The electricity balance providers registered in Estonia are as follows:

- [Alexela AS](#)
- [Axpo Nordic AS](#)
- [Eesti Energia AS](#)
- [Electric Terminal OÜ](#)
- [Elektrum Eesti OÜ](#)
- [Energynet SIA](#)
- [Fusebox OÜ](#)
- [Gren Eesti AS](#)
- [Nordic Power Management OÜ](#)
- [Olerex AS](#)
- [Scener OÜ](#)
- [SIA AOX Trade](#)

In 2019 the Competition Authority approved Elering AS's standard terms and conditions for balance contracts and regulation agreements, and the rules for safeguarding balance in the electricity system, or the balancing rules. These can be found on the website of the Competition Authority <https://www.konkurentsiamet.ee/et/elekter-maagaas/elekter/tuuptingimused>.

Methodology for calculating the price of balancing electricity

At the end of 2020 the Competition Authority approved Elering AS's methodology for calculating the price of balancing electricity, with implementation as of 1 January 2021. A common methodology for

calculating the price of the balancing service can be found on the website of Elering AS at https://elering.ee/sites/default/files/2020-06/Bilansiteenuse%20hinna%20arvutamise%20%C3%BChtne%20metoodika_2020.pdf.

The current administrative cost components are available on the website of Elering AS at <https://elering.ee/bilansihaldus#tab2>.

2.1.6. Cross-border issues

Estonia has electricity connections with Russia, Latvia and Finland. The map of the Estonian electricity system is presented in Figure 2. The map of electricity systems of the Baltics and north-western part of Russia is presented in Figure 4. Yet, it should be noted that Finland belongs to the Nordic countries' electricity system, Nordel, which is not synchronised with the BRELL connection of the electricity systems of Russia and the Baltic countries, to which Estonia belongs.



Figure 4. Map of electricity systems of Baltic countries and north-western part of Russia (Elering AS)

Estonia has three 330 kV overhead AC connections with Russia and three 330 kV overhead lines with Latvia with a maximum capacity in the EE->LV direction of 1,447 MW and in the LV->EE direction 1,259 MW. The Estonia–Latvia third line was completed at the end of 2020 and raised the capacity considerably. Previously the EE->LV direction had a maximum transmission capacity of 1,000 MW and the LV->EE direction 879 MW. There are two DC connections with Finland (Estlink1 350 MW and Estlink2 650 MW). Depending on network repair works and ambient air temperature variations, the transmission capacity between Estonia and Latvia may decrease. The maximum capacities which can be imported and exported depend on the one hand from the technical transmission capacity of the lines and on the other

from the stability margin determined in the operational regime calculations. The one which is lower determines the final limitation.

Regulation derived from the legal acts of European Union and its implementation

CACM regulation¹⁵

The methodologies regarding the rules for transmission capacity calculation and allocation arise from the Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline for capacity allocation and congestion management.

No new European-wide, regional or national methodologies arising from CACM were under discussion in 2022.

FCA regulation¹⁶

The methodologies concerning cross-zonal capacity allocation in the forward market derive from the Regulation (EU) no 2016/1719 of 26 September 2016 establishing a guideline on forward capacity allocation.

Methodologies arising from FCA that were under discussion in 2022

1. For regionally shaped long-term transmission rights issued at the border of the bidding zone, regional design of long-term transmission rights in the Baltic capacity calculation region in accordance with Article 31.
On 15 September 2022, the Competition Authority issued Decision No 7-26/2022-001 approving the methodology.
2. Regional specific annex for the Baltic capacity calculation region pursuant to subsection 3 of Article 52.
On 15 September 2022, the Competition Authority issued Decision No 7-26/2022-002 approving the annex.
3. A bilateral methodology proposal for the allocation of cross-zonal capacity for long periods at the border of the Estonian–Finnish bidding zone, in accordance with subsection 1 of Article 16.
The Competition Authority issued their approval by letter No 7-25/22-0171-351-2 of 15 September 2022.

SOGL regulation¹⁷

The methodologies concerning the guideline on electricity transmission system operation are derived from Commission Regulation (EU) 2017/1485 of 2 August 2017 establishing a guideline on electricity transmission system operation.

No new European-wide, regional, or national methodologies arising from SOGL were under discussion in 2022.

EBGL regulation¹⁸

The methodologies concerning the guideline on electricity balancing arise from Commission Regulation (EU) 2017/2195 of 23 November 2017 (EBGL regulation).

Regional methodologies and decisions arising from EBGL that were under discussion in 2022.

¹⁵ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32015R1222>

¹⁶ https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.L_.2016.259.01.0042.01.ENG

¹⁷ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32017R1485>

¹⁸ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32017R2195>

1. Methodology for the market-based allocation of cross zonal capacity of each capacity calculation region in compliance with subsection 1 of Article 41 of the EB Regulation (MB CZCA proposal)

On 18 December 2019 Elering AS submitted the methodology to the Competition Authority for approval.

On 18 June 2020 the regional regulatory authorities submitted a request to TSOs to modify the methodology.

On 28 August 2020 Elering AS submitted the proposal for the modified methodology to the Competition Authority for approval.

On 30 October 2020 the regional regulatory authorities submitted a second request to TSOs to modify the methodology.

On 30 December 2020 Elering AS submitted the proposal for the second modified methodology to the Competition Authority for approval.

Since the regulatory authorities of the region did not reach a common agreement on the methodology, it was sent on 26 February 2021 to ACER for a decision.

On 16 August 2021 ACER issued decision No 10-2021, which stipulated, among other things, that TSOs are obliged to submit a modification to the methodology within a year.

The methodology is published on the website of ACER at https://www.acer.europa.eu/sites/default/files/documents/Individual%20Decisions_annex/ACER%20Decision%2010-2021%20on%20the%20Baltic%20CCR%20methodology%20for%20market-based%20allocation%20-%20Annex%20I_0.pdf.

By letter of 3 August 2022, the TSOs in the region requested the relevant regulatory authorities to extend the deadline for the submission of the methodology by 3 (three) months.

By letter of 31 August 2022, the regional regulatory authorities extended the deadline for submitting the methodology for the TSOs by 3 (three) months and set a new deadline of 13 November 2022.

On 13 November 2022, Elering AS submitted the updated methodology for TSOs in the Baltic coordinated capacity calculation region to the Competition Authority for approval.

On 12 May 2023, all the relevant regulatory authorities agreed on improvements to the methodology for the application to submitted to TSOs.

On 16 May 2023, the regional regulatory authorities submitted a request to TSOs to modify the methodology.

ER NC regulation¹⁹

The methodologies concerning the network code on electricity emergency and restoration arise from Commission Regulation (EU) 2017/2196 of 24 November 2017 establishing a network code on electricity emergency and restoration (ER NC).

In 2022 no new methodologies arising from the ER NC were discussed.

IME regulation²⁰

Methodologies concerning the internal market for electricity arise from Regulation (EU) 2019/943 of 5 June 2019 of the European Parliament and of the Council (IME (Internal Market Electricity) Regulation).

No European-wide/regional methodologies and decisions arising from IME were under discussion in 2022

Regulation (EU) 2019/941²¹

¹⁹ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32017R2196>

²⁰ <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32019R0943&from=EN>

²¹ https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2019.158.01.0001.01.ENG

Regulation (EU) 2019/941 of the European Parliament and of the Council of 5 June 2019 concerns the subject of risk-preparedness in the electricity sector. The objective of the regulation is to ensure that all Member States undertake adequate measures for preventing, preparing for and managing electricity crises.

Disclosure of data on electricity system

The cross-border transmission capacity data calculated by the system operators and limitations set on the system, their causes and impact on the electricity system, as well as interruptions will be published according to Regulation (EU) 1227/2011 of 25 October 2011 of the European Parliament and of the Council on wholesale energy market integrity and transparency (REMIT Regulation), which sets the requirement to publish market information as soon as possible and in a transparent and unambiguous manner. The data on the electricity system of the Baltic and Nordic countries regarding transmission capacities is disclosed by the TSOs on the basis of the REMIT Regulation in the form of urgent market messages (UMM) on the website of market administrator Nord Pool, in the portal of urgent market messages: <https://umm.nordpoolgroup.com/#/messages?publicationDate=all&eventDate=all>.

Besides the REMIT Regulation, the publication of electricity system data is additionally regulated by Commission Regulation (EU) No 543/2013 of 14 June 2013 on submission and publication of data in electricity markets and amending Annex I to Regulation (EC) No 714/2009 of the European Parliament and of the Council. On the basis of the respective regulation the electricity-system-related data is published on the pan-European transparency platform, which can be found at: <https://transparency.entsoe.eu/>.

Pursuant to Article 50 of Regulation (EC) No 2019/943, Elering AS has published on its website (<http://www.elering.ee>) the rules for allocation of the aforesaid available capacity and the agreements. The website also includes information on available transmission capacity, utilised total capacity, demand and production, presenting both the actual data and either annual, monthly, weekly and/or daily estimates pursuant to the guidelines. The website includes a separate data disclosure application, where the information is visually observable and easy to download. The information is published to the market participants simultaneously, transparently, in a user-friendly manner and in an easily downloadable format.

Use of congestion income in the period from 1 January 2022 to 31 December 2022

Pursuant to clause 2 of Article 19 of Regulation (EC) No 2019/943, the following objectives will have priority with respect to the allocation of any revenues resulting from the allocation of cross-zonal capacity:

- a) guaranteeing the actual availability of the allocated capacity including firmness compensation; or
- b) maintaining or increasing cross-zonal capacities through optimisation of the usage of existing interconnectors by means of coordinated remedial actions, where applicable, or covering costs resulting from network investments that are relevant to reduce interconnector congestion.

Pursuant to subsection 3 of the same section, where the priority objectives set out in subsection 2 are sufficiently met, the revenue may be used as income, which will be taken into account by the regulatory authorities when approving the methodology for calculating network charges or when setting network charges, or both.

In the period from 1 January 2022 to 31 December 2022, Elering AS earned congestion income in the total amount of 230.7 million euros. In 2022 60.7 million euros of this was used to cover the increased costs of electricity network losses, 21.8 million euros for cross-border investments and 4 million euros for other authorised activities.

2.1.7. Projects of common interest

Projects of common interest belong to the sphere of the European public interest, which have a cross-border impact and which contribute to the development of the joint European energy system, boost competition and help to improve energy security in Europe. The administration and permit-granting procedures are carried out on the basis of Regulation (EU) 347/2013 via consultations and involving all interest groups concerned. Projects can compete to be listed as the projects of common interest every year under certain categories. The projects approved and adopted in the list later have the right to apply for funding from the European fund Connecting Europe Facility (hereinafter CEF).

Projects of common interest in the electricity sector include electricity infrastructure projects as well as smart grid implementation projects. Table 5 presents an overview of the electricity sector projects of common interest in which Estonia is involved.

Table 5. Projects of common interest in the electricity sector

No	Name of project	Project No	Application to Competition Authority	Issuance of decision	Estimated deadline for completion
1	Interconnector between Estonia and Finland (EstLink 3) ²²	–	No investment application has been submitted to the Competition Authority.		
2	West-Estonian Sea Network ²³	–	No investment application has been submitted to the Competition Authority.		
2	Hydro-pumped electricity storage power plant	4.6	No investment application has been submitted to the Competition Authority.		
3	Synchronisation of the Baltic States' electricity system with the networks of continental Europe	4.8	31 May 2018; 8 November 2019	Decision no 7-10/2018-018 of 10 September 2018; Decision no 7-10/2020-002 of 8 May 2020	2025
4	Data Bridge (Estonia, Latvia, Lithuania, Denmark, Finland, France)	10.8			
5	Cross-border flexibility project (Estonia, Finland)	10.9			

Hydro-pumped electricity storage power plants may apply for funding for research. No investment application has been submitted to the Competition Authority.

The disconnection of the Baltic electricity systems from the Russian electricity system and integration with the electricity system of the European Union is a strategic objective and priority of the EU energy policy. Synchronisation of the electricity systems of the Baltic countries with the networks of continental

²² Not yet on the list of projects of common interest.

²³ Not yet on the list of projects of common interest.

Europe takes place in phases. The first phase of synchronisation involves the reconstruction of the necessary power lines.

On 8 November 2019 the Baltic transmission network operators together with the Polish transmission network operator submitted to the energy regulators of the Baltics and Poland an application for financing of the second phase and a proposal for the allocation of cross-border costs. On 27 April 2020 the energy regulators of the Baltics and Poland concluded a contract which gave approval to the second phase of the project to synchronise the electricity systems of the Baltic countries with the Central Europe network. On the basis of the agreement, the investments of the second phase of the approved project are in the amount of 1.2 billion euros, out of which 110.6 million euros is for Estonia. On 8 May 2020 the Competition Authority issued a decision No 7-10/2020-002 approving the investment application for the second phase of synchronisation.

The objective of the Data Bridge project is to create a common European data communication platform, which enables the possibility to integrate data of various kinds (smart metering data, operative network data, market data), in order to develop solutions for the EU, which provide a scale effect and which can be implemented on a large scale.

The objective of the cross-border flexibility project is to support the integration of renewable energy sources and improve the security of energy supply in Estonia, Finland and Åland, by providing a cross-border flexibility service based on distributed production.

2.2. Competition and functioning of the market

2.2.1. Wholesale electricity market

General organisation of the wholesale market

The electricity wholesale market in Europe is regulated by the European-wide network guidelines and the objective is to achieve as uniform a market as possible. Trading takes place on long-term futures markets (regulated by the FCA GL), the day-ahead and the intraday exchange (both regulated by the CACM GL) and regulation or reserve markets (regulated by the EBGL and the IME Regulation). In addition, it is possible to trade off the power exchange, ie with OTC (over the counter) contracts, for example, between a large consumer and producer. In Estonia the OTC contracts are only possible inside the country, ie within a single bidding zone (in terms of the market Estonia is a single bidding zone).

In addition to the described energy markets, capacity markets are also possible. Their objective is to ensure sufficient capacity to the energy markets, in order to safeguard security of supply. Capacity markets are usually used to provide capacity for the regulation markets or to ensure a capacity mechanism for security of supply. There are currently no capacity markets in Estonia, but the Baltic system operators plan to start the market for frequency reserves in 2025 to ensure the operation and security of supply of the electricity system after the synchronisation of the Baltic electricity systems with the Continental Europe Synchronous Area, when the system will need to make more use of automatically and manually triggered frequency management reserves than what is currently the case.²⁴

²⁴ <https://view.news.eu.nasdaq.com/view?id=bb2129ec1486c222d0b266602a54bebd2&lang=en>

The market operator for the financial instruments offered by the system operators in Europe is JAO (Joint Allocation Office), which regulates the organisation of auctions for FTR (financial transmission rights) and PTR (physical transmission rights) products (they enable the possibility to mitigate the price risk regarding price differences of bidding zones). In addition, it is also possible to buy financial instruments through NASDAQ OMX, which offers the fixation of the system price through futures and the bidding zone price fixation products EPADs (electricity price area differentials). Due to lack of interest and liquidity, NASDAQ OMX discontinued the offering of EPAD Tallinn product as of 3 October 2022. From the end of 2022, in addition to Estonian–Latvian FTRs, Finnish–Estonian FTRs will also be available, with the first auction for annual FTRs (for 2023) taking place from 1–8 December 2022.²⁵

The day-ahead and intraday wholesale markets in Europe are common. This means that the market algorithm, which calculates the price on the bids, is coordinated and incorporates information from all market operators. The day-ahead market works with the PCR Euphemia (Pan-European Hybrid Electricity Market Integration Algorithm) algorithm, which calculates hourly clearing prices from the buy and sell offers announced each day at around 13:45 for the next day. Price differences between bidding zones only occur when there is insufficient transmission capacity between two bidding zones for the energy flows, ie a so-called bottleneck occurs.

The intraday market operates with continuous trading. This means that there is no common price and each offer can get a different price depending on when sell and buy bids match each other and the particular transaction takes place. The intraday market transactions can be made after the day-ahead market results are announced and up to one hour before the beginning of the particular supply hour for which the transaction is requested. The European intraday market is connected through the XBID (European Cross-Border Intraday) solution.

The Competition Authority, in cooperation with the Latvian and Lithuanian regulatory authorities, carried out a joint analysis²⁶, which concluded that in order to avoid the maximum market price of 4000 €/MWh that occurred on 17 August 2022 and price spikes in the future, it is important to introduce a process of reopening the bidding lists in case of a high market price risk, similar to the region of continental Europe. From 7 December 2022 Nord Pool will implement a reopening of the bidding lists in the Baltic region to reduce the risk of price peaks (in addition to the Lithuanian peak capacity reserve), whereby market participants will have the possibility to modify their bids for 15 (fifteen) minutes if the PCR Euphemia algorithm calculation results in a price above 2,400 €/MWh in the price area.²⁷

In the opinion of the Competition Authority, the increase in electricity price was caused by transmission capacity restrictions, simultaneous maintenance and failures of Baltic and Finnish production units, low wind power generation, low Norwegian hydropower reservoir filling levels, and the rejection of the block orders of market participants by the power exchange system. The Baltic electricity market is an extremely small market compared to other EU Member States and prices can be affected already by very small changes in the market. However, the analysis of the bids submitted by the market participants to the power exchange did not reveal any breach of market rules.

In addition to the reopening of the bidding lists, the Baltic regulators made proposals to adapt Nord Pool's bidding products to better fit the Baltic market. Among other things, the Baltic system operators must coordinate between themselves the maintenance and planned repairs of transmission capacities,

²⁵ <https://www.jao.eu/auctions#/calendar/download-all>

²⁶ <https://www.konkurentsiamet.ee/et/uudised/nord-pool-peab-balti-turule-pakutavad-tooted-muutma-paindlikumaks>

²⁷ <https://www.nordpoolgroup.com/en/message-center-container/newsroom/exchange-message-list/2022/q4/nemos-to-increase-second-auction-threshold-to-eur-2400-per-mwh/>

avoiding the situation where important transmission capacities are maintained or repaired at the same time. There is a need for better co-ordination of maintenance and repairs of generating units of the major Baltic generators (Enefit Power, Latvenergo and Ignitis), avoiding the situation where large generating units are maintained at the same time. For this purpose, the possibility of introducing such a coordination mechanism should be analysed in cooperation with the Baltic regulators.

On the day-ahead market, consumption should be managed more effectively to keep electricity prices under control. Electricity sellers should offer consumption management solutions to consumers. In order to better manage consumption, legislation must be supplemented. Power exchange operators should compare the price calculation results made for the day-ahead market and select a result that would most benefit the final consumers.

In order to increase the flexibility of offers and probability of market access and decrease the likelihood of paradoxical rejection, it is recommended that market participants submit single hourly orders instead of block orders, and submit shorter and smaller-scale exclusive group orders or flexible orders (flexi orders). In addition, the production capacity volume specified in the block order should preferably be the technical minimum capacity needed for the operation of the generation unit, or the market participant should be able to set a MAR coefficient for block orders that would allow for the production capacity specified in the block order to be reduced to the level of technical minimum capacity necessary for the operation of the generation block.

According to the CACM Regulation, the market operators will be nominated by the regulatory authority of a Member State, in order to verify whether they are able to perform respective tasks and equal treatment of market participants is ensured. At least one nominated market operator will be designated in each Member State (subsection 2 of Article 4 of the CACM Regulation). In addition, the possibility must be provided for several market operators to act simultaneously. To that end the rules for the activities of market operators must be set out by the MNA (multi-NEMO arrangement) methodology, pursuant to Articles 45 and 57 of the CACM Regulation. The respective rules are not yet affirmed in Estonia, nor in the Baltics.

The Nord Pool power exchange, which started operating in Estonia in April 2010, is the Nominated Electricity Market Operator in Estonia. The electricity market was at the time 28.4% open. On 1 January 2013 the electricity market was opened to everyone, that is, all electricity consumers with a valid network contract can choose a suitable electricity seller and electricity price package.

In Estonia, a permit for the organisation of the power exchange has also been issued by the Estonian Competition Authority to EPEX Spot, which is currently not actively operating in Estonia.

Activities of Estonian market participants in the wholesale market and market characterising statistics

In order to adequately evaluate the activity of electricity producers and wholesale traders it is appropriate to consider their market share in the regional wholesale market in co-operation with other Baltic electricity market regulators. Due to the EstLink 1 and the EstLink 2 interconnections between Estonia and Finland, as well as the NordBalt interconnection between Lithuania and Sweden, and the LitPolLink connection between Lithuania and Poland, the electricity system of the Baltic countries is integrated with Finland, Sweden and Poland. This way both the Estonian and the entire Baltic electricity system is integrated with the joint European power exchange and wholesale market. In 2022 6,312 GWh of electricity was produced (net production) in Estonia. Compared to 2021 the production increased by 19.3%. Electricity production primarily increased due to the situation in the market, where electricity prices had increased several times. In 2022 7,069 GWh of electricity was imported into Estonia, compared to 2021 the volume import increased by 5.3%. In 2022 7,236 GWh of electricity was

consumed, compared to 2021 the consumption decreased by 7.8%. In 2022 4,832 GWh of electricity was exported from Estonia, which was an increase of 27.0% compared to 2021. Network losses in the Estonian electricity system were 1,228 GWh in 2022, which is 11.9% more than in 2021. The main reason for the increase in grid losses is the increase in electricity transit through the Estonian grid. As cheaper electricity from the Nordic countries flows through the Estonian grid to Latvia, the higher load on the Estonian grid has increased network losses. Table 6 shows the comparison of the change in the Estonian electricity balance in 2021 and 2022.

Table 6. Electricity balance sheet, GWh (Elering AS)

Electricity balance sheet, GWh	2021	2022	Change %
Net generation	6,312	7,533	19.3
Import	7,464	7,069	-5.3
Consumption	7,847	7,236	-7.8
Losses	1,097	1,228	11.9
Export	4,832	6,138	27.0

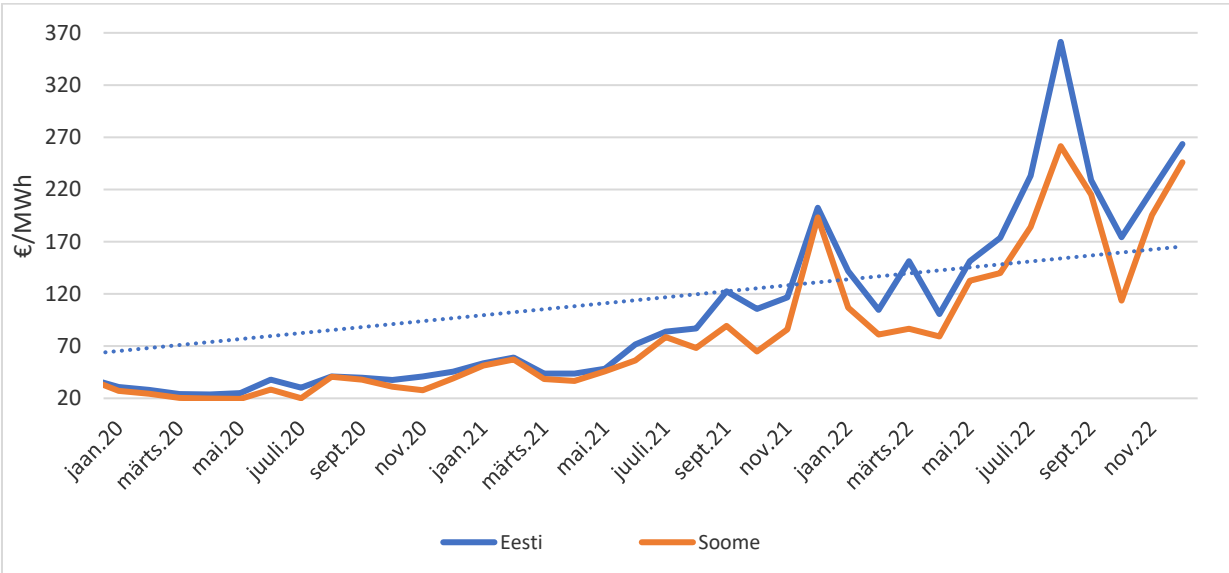


Figure 5. Comparison of NP Estonia and NP Finland price area average monthly prices (€/MWh) since 1 January 2018 (Nord Pool)

It appears from Figure 5 that the Estonian and Finnish electricity prices have historically been quite similar after the commissioning of EstLink 2 in December 2013, due to which there has been sufficient transmission capacity (1016 MW) between Estonia and Finland. The differences in the Estonian and Finnish electricity prices have in most cases been caused by the interruptions in EstLink 1 and EstLink 2, when the transmission capacity between Estonia had decreased. At the same time, since 2020 the emergence of price differences has been noticeable again, due to the reduction of Estonian production capacities, a deficit has started to arise for transfer capacity between Estonia and Finland – the import demand from Finland to Estonia has often been greater than the connection capacity has enabled. Bottlenecks in the direction have occurred 41% of the time during 2021 and 39% of the time in 2022. This means that price differences between these bidding zones have also emerged and the price in the Estonian zone has risen higher than the price in the Finnish zone.

In 2022 EstLink 1 was out of service for 421 (four hundred twenty-one) hours due to breakdowns or repair works. EstLink 2 was out of service for 49 (forty-nine) hours.

Figure 5 shows a strong increase in electricity prices in 2022. This trend is visible throughout the European market, primarily due to the strong increase in the price of natural gas. The regional price increase can be seen in the prices of the day-ahead market (Elsport) of the Nord Pool electricity market, illustrated in Table 7. The price of the system has risen by 118%, or by nearly twice. Price increases of a similar magnitude are also found in the Finnish and Estonian price areas, while slightly higher price increases are observed in the Latvian and Lithuanian price areas. The difference from the system price is caused because bottlenecks at the borders of the bidding zones have raised the price compared to the system price. In the Estonian price area, the electricity market price in 2022 has been 122%, or more than 2.2 times higher than in 2021, also being 20.11% higher than the price in the Finnish price area and 17.68% lower than the price in the Latvian price area.

Table 7. Comparison of prices in day-ahead (Elsport) market (Entso-E, Nord Pool)

Price area	Average 2021 price, €/MWh	Average 2022 price, €/MWh	Change %	Maximum 2022 price, €/MWh	Minimum 2022 price, €/MWh
NP System	62.31	135.86	118.1	706.87	0.00
NP Finland	72.34	154.04	112.9	861.14	-2.08
NP Estonia	86.72	192.82	122.3%	4,000.00	-0.04
NP Latvia	88.77	226.91	155.6%	4,000.00	-0.04
NP Lithuania	90.45	230.23	154.5%	4,000.00	-0.04

For comparison, Figure 6 presents Nord Pool Estonia price area electricity prices in the years 2018–2022.

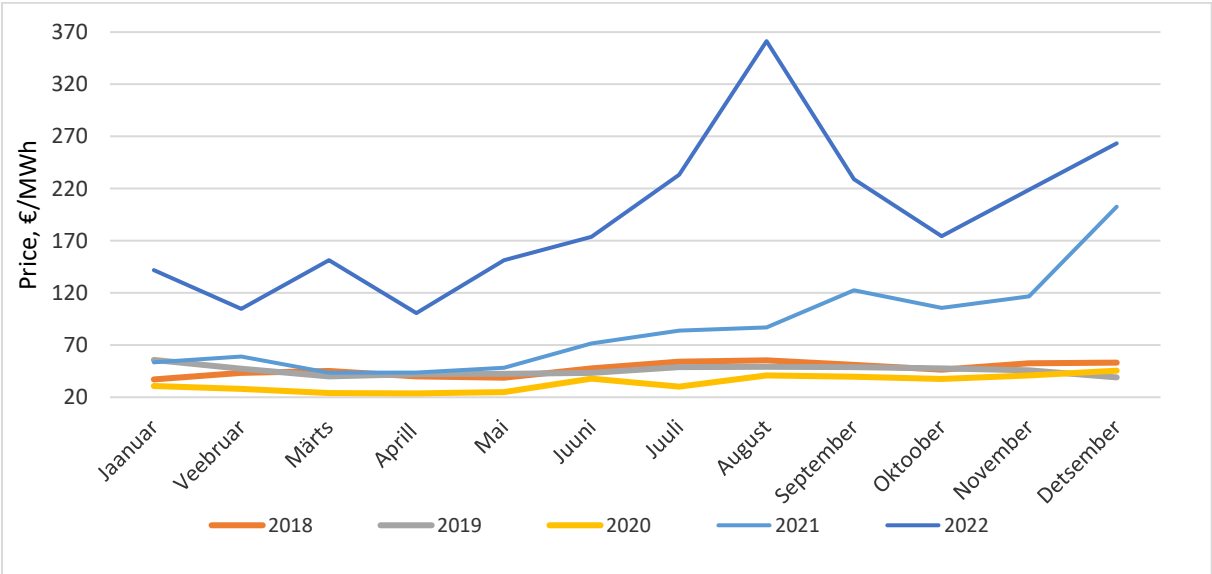


Figure 6. Average electricity prices (€/MWh) in the price area of NP Estonia in 2018–2022 (Nord Pool)

Electricity prices in the NP Estonia price area have been volatile in these years, with a strong increase in the second half of 2021, as mentioned, and a significant increase in 2022 compared to previous years.

The highest monthly price was in August 2022, at 361.35 €/MWh, the lowest was in April 2020, at 23.69 €/MWh.

Table 8. Quantities traded in NP Estonia price area in the day-ahead (Elspot) market (*Nord Pool*)

Quantities traded in the NP Estonia price area	Unit	2021	2022	Change %
Day-ahead (Elspot) sold electricity quantity in the NP Estonia price area	TWh	5.28	6.51	23.3
Day-ahead (Elspot) bought electricity quantity in the NP Estonia price area	TWh	7.94	7.52	-5.3

Table 8 shows that the total amount of electricity sold on the day-ahead (Elspot) market in 2022 was 6.51 TWh, 23% more than in 2021. The reason for the increase in these quantities is that shale production capacities have gained more access to the market due to significantly higher market prices. The total amount of electricity purchased was 7.52 TWh, which is 5.3% less compared to 2021.

Table 9. Quantities traded in the NP Estonia price area in the intraday (Elbas) market (*Nord Pool*)

Quantities traded in the NP Estonia price area	Unit	2021	2022	Change %
Intraday (Elbas) quantity of electricity sold in the NP Estonia price area	GWh	207	267	29.0
Intraday (Elbas) quantity of electricity purchased in the NP Estonia price area	GWh	216	281	30.1

Table 9 reveals that the quantities of electricity sold in the intraday (Elbas) market in 2022 totalled 267 GWh, which is 29% more than in 2021, and the quantities of electricity purchased totalled 281 GWh, which is 30.1% more than in 2021. Thus, the activity of traders on the intraday market has increased. A similar trend has already been noticed in Europe in previous years. The reason for this is the larger share of renewable energy, which is inherently more difficult to predict than the generation of fossil fuel plants which have a fixed output power, and thus requires more intraday specification of the generation forecast. However, power exchanges have also started to pay more attention specifically to intraday trade products and the creation of additional options. So, this is likely a growing trend and continuous increase in trade and liquidity in the intraday market can be expected.

For better functioning of the electricity market, the high-voltage direct-current electricity connection EstLink 2 was established between Estonia and Finland at the end of 2013. In addition, NordBalt, the connection between Lithuania and Sweden, and LitPol Link, between Lithuania and Poland, became operational in 2016. Stronger interconnections with Nordic countries ensure tighter competition between producers, more transparent prices for consumers and preconditions for a functioning electricity market. It is important to emphasise that the functioning and transparency of, and strong competition in the Baltic electricity market is also ensured by a strongly interconnected electricity network (both inside the Baltic countries and Europe) and harmonised organisation of the market (much of which is already uniformly regulated across Europe).

The main import to the Estonian price zone in 2022 came from the Finnish-direction interconnections, the market flow was in this direction 98% of the time, and the main export went in the Latvian direction, where market flow was in this direction 96% of the time. Table 10 illustrates the directions of day-ahead market flows.

Table 10. Cross-border day-ahead market flow distributions in 2022 (*Entso-E*)

Direction	Day-ahead market flow in given direction h	Day-ahead market flow in given direction %
EE->FI	174	2.0
FI->EE	8,557	97.7%
EE->LV	8,376	95.6
LV->EE	299	3.4

So-called bottleneck hours, where there was a shortage of transmission capacity in a given direction, occurred most often in the Finland–Estonia direction – 39% of the time. In this interconnection, 78.9% of the entire capacity given for the day-ahead market was used for trading. The presence of bottleneck hours on the Estonian–Latvian route is also noteworthy, where the share was 25.7%, and 71.1% of the market capacity was used for trading on this route. There were no congestion problems on the Estonia–Finland route, and only some minor congestion on the Latvia–Estonia route. Table 11 illustrates the rate of occurrence of bottleneck hours and the utilisation capacities given to the day-ahead market in 2022. For comparison purposes, Table 12 presents the same data for 2021. The tables show that the shortage of capacity in the direction of Finland–Estonia has been present for several years. A significant increase in the share of bottleneck hours is observed in the Estonian–Latvian direction, partly due to cheaper electricity in the Nordic countries, and also due to restrictions on cross-border Estonian–Latvian transmission capacity due to reconstruction works on the Estonian–Latvian interconnectors.

Table 11. Utilisation of capacity given to market and shortage in 2022 (*Entso-E, Elering AS*)

2022				
Direction	Bottleneck hours after day-ahead trading	Share of bottleneck hours %	Average trading flow in Elspot market, MWh	Utilisation of capacity given to Elspot market
EE->FI	0	0.0%	3	0.37%
FI->EE	3,443	39.3%	779	78.87%
EE->LV	2,252	25.7%	666	71.11%
LV->EE	13	0.2	6	0.61%

Table 12. Utilisation of capacity given to market and shortage in 2021 (*Entso-E, Elering AS*)

2021				
Direction	Bottleneck hours after day-ahead trading	Share of bottleneck hours %	Average trading flow in Elspot market, MWh	Utilisation of capacity given to Elspot market
EE->FI	0	0.0%	5	0.52%
FI->EE	3,595	41.0%	747	74.21%
EE->LV	474	5.4%	465	41.11%
LV->EE	4	0.1%	28	2.59%

Tables 13 and 14 illustrate the limits of the transmission capacities given to the Elspot market for trade in 2021 and 2022. In 2022 significantly more transmission capacity was limited to Latvia than in 2021,

due to the ongoing reconstruction works on the lines to Latvia, which are part of the synchronisation project. In 2022 there were somewhat more restrictions, also regarding the transmission capacity between Estonia and Finland.

Table 13. Capacity limitations given to market in 2022 (*Elering AS*)

2022				2022 vs. 2021
Direction	Average capacity given to Elspot market (NTC D-1) MW	Max installed capacity based on Nord Pool data*, MW	Average extent of transmission capacity limitations for day-ahead market (Elspot)	Change of average capacity given to market in 2022 compared to 2021
EE->FI	942	1,016	7.3%	-4.9%
FI->EE	988	1,016	2.8%	-1.9%
EE->LV	936	1,447	35.3%	-20.9%
LV->EE	915	1,259	27.4%	-19.0%

*The maximum installed capacity number is used, which does not take into account limitations due to air temperatures. With the third line, in 2021 the maximum NTC in the direction EE->LV increased to 1,447 MW and in the direction LV->EE to 1,259 MW.

Table 14. Capacity limitations given to market in 2021 (*Elering AS*)

2021			
Direction	Average capacity given to Elspot market (NTC D-1), MW	Max installed capacity based on Nord Pool data*, MW	Average extent of transmission capacity limitations for day-ahead market (Elspot)
EE->FI	988	1,016	2.8%
FI->EE	1,006	1,016	1.0%
EE->LV	1,132	1,447	21.8%
LV->EE	1,089	1,259	13.5%

The power exchange operator Nord Pool and the system operator Elering AS have disclosed on their websites^{28,29,30} the information on generation data and transmission capacities (incl interruptions) and the data on all power exchange price areas in the Nord Pool system. The data can be easily found and downloaded. The transparency of the market is also ensured by a harmonised market organisation with neighbouring countries.

In 2022, 3 new balance providers – Olerex AS, Electric Terminal OÜ and SIA AOX Trade – were added to the Estonian market and INTER RAO Eesti OÜ ceased to operate as a balance provider, so there were 12 balance providers in Estonia at the end of 2022. In addition, Elering AS is also registered as a balance provider for the purchase of network losses and the sale of electricity during emergency power plant tests. Figure 7 and Figure 8 characterise the competition between balance providers. In terms of consumption portfolios, Eesti Energia AS has the largest market share with 56.2%. In terms of production portfolios, Eesti Energia AS also has the largest share with 79.7%.

²⁸ <https://umm.nordpoolgroup.com/#/messages?publicationDate=all&eventDate=nextweek>

²⁹ <https://dashboard.elering.ee/et>

³⁰ <https://www.nordpoolgroup.com/en/Market-data1/#/nordic/table>

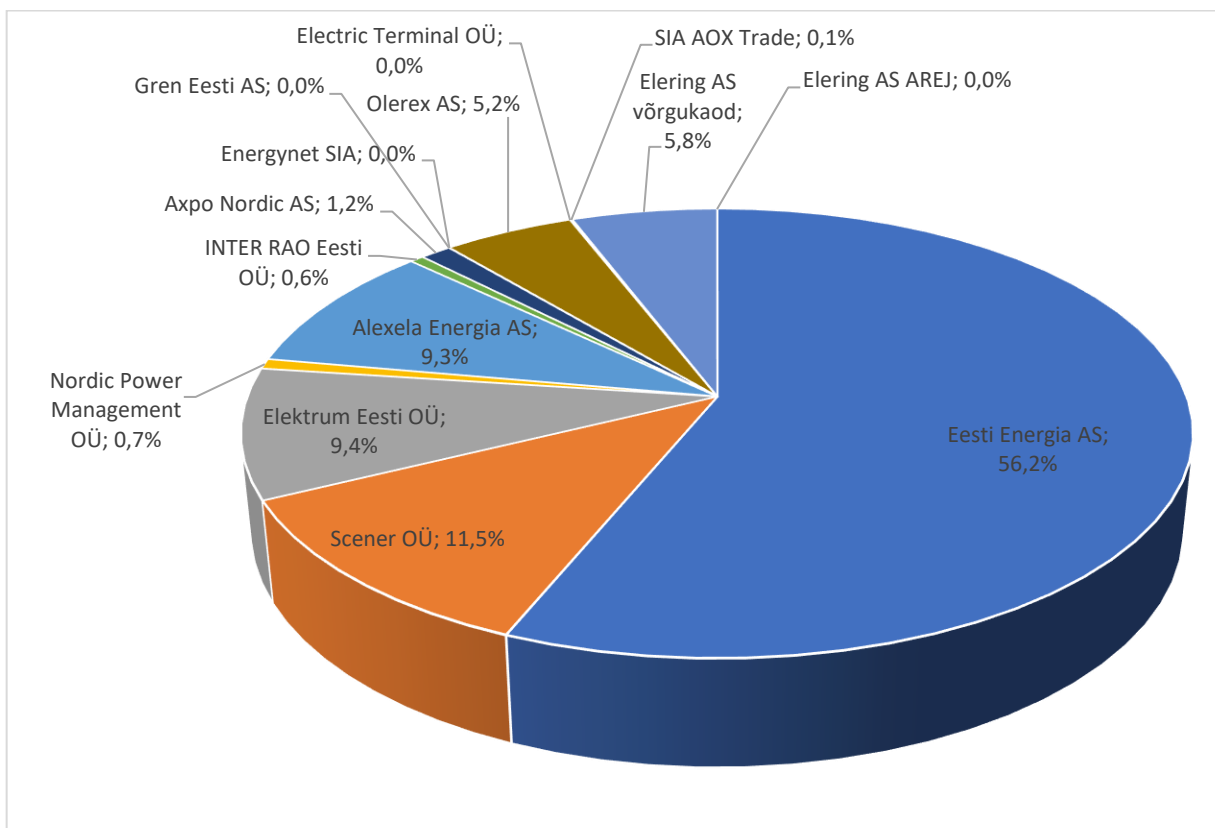


Figure 7. Distribution of market shares between balance providers by consumption in 2022 (*Competition Authority's survey, Elering AS*)

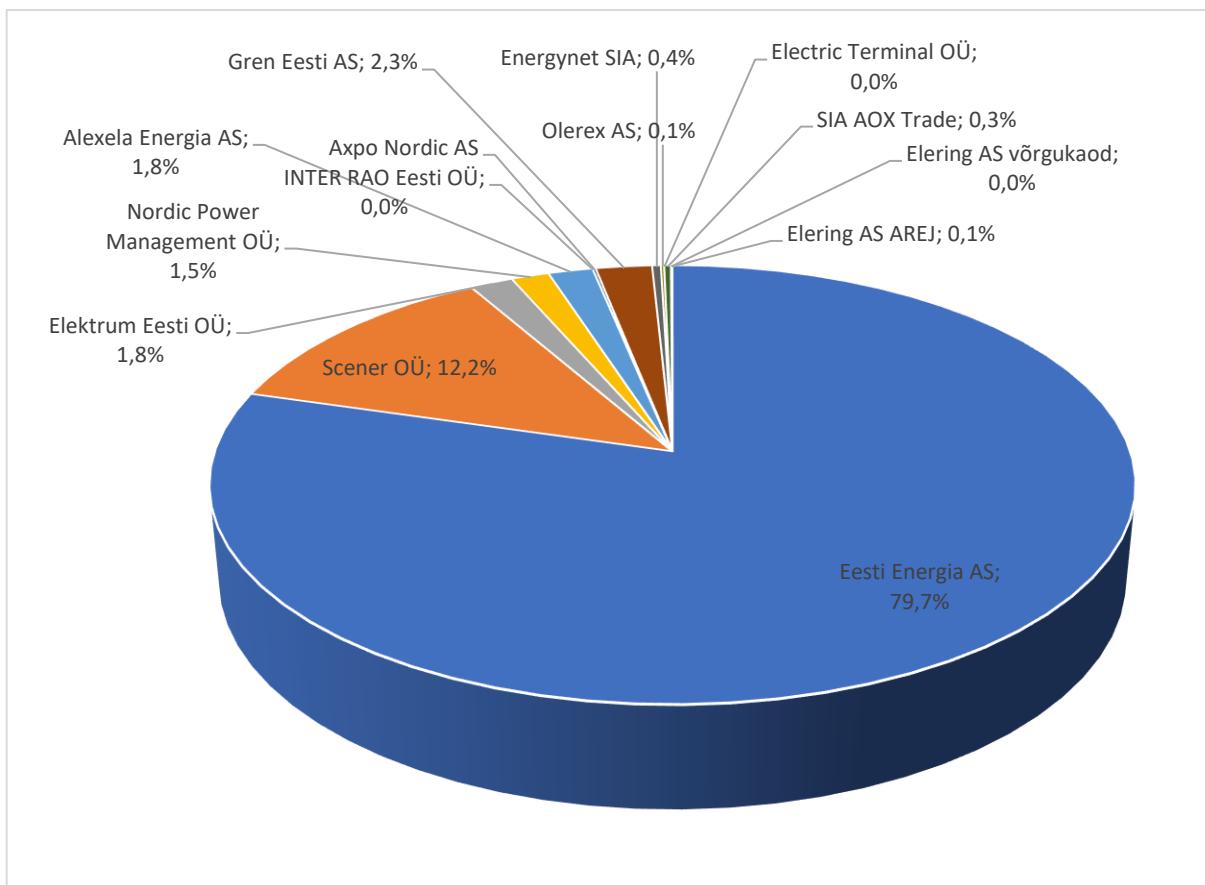


Figure 8. Distribution of market shares by balance providers on the basis of production in 2022 (Competition Authority's survey, Elering AS)

The Competition Authority considers that the Estonian wholesale market is concentrated. Although the market shares are split between several balance providers, both in terms of production and consumption, the largest market share by balance providers is 80% of the total market in terms of production and 56% in terms of consumption. High market concentration is also indicated by the HHI of electricity producers³¹ of 6,517. However, the overloading of the connection between Estonia and Finland has become a problem in the electricity system, which means that Estonia and the rest of the Baltics will benefit less from the lower electricity prices of the Nordic countries.

Table 15. Retail market indicators (Inquiry by the Competition Authority, Elering AS)

Indicators of wholesale electricity market	2021	2022
Production of electricity GWh	6,312	7,533
Consumption (with losses) GWh	8,966	8,463
Import volume GWh	7,464	7,069
Export volume GWh	4,832	6,138
Market share of the three biggest electricity producers (CR3)	75.2	78.0

³¹ The Herfindahl-Hirschman Index (HHI) is an index used in microeconomics of the market shares of all firms operating in a market, giving proportionally greater weight to the market shares of larger firms. The Herfindahl index provides information on how concentrated the market is and hence how strong the competition is. An HHI below 1,500 indicates an unconcentrated market, a range of 1,500–2,500 indicates moderate concentration and a value above 2,500 indicates a highly concentrated market.

HHI of electricity producers	5,875	6,517
Number of active balance providers in the wholesale market	9	12
Intra-day trading (buying/sales) GWh	216/207	281/267
Day-ahead trading (buying/sales) GWh	7,938/5,281	7,523/6,513
Average electricity exchange price €/MWh	86.72	192.82
Production quantity by energy sources GWh		
• non-renewable energy sources	3,734.45	4,964.89
• renewable energy sources	2,577.60	2,568.66
• wind energy	730.71	663.86
• hydro energy	24.76	22.57
• solar energy	305.48	505.67
• gas energy	238.31	6.00
• co-generation plants	1,518.84	1,417.00

2.2.2. Retail market of electricity

In 2013 the electricity market in Estonia was completely opened. This means that all consumers which have a valid network contract can choose a suitable electricity seller. Eesti Energia AS has the largest market share in the retail market.

Table 16. General data on retail market (*Inquiry by the Competition Authority*)

Indicators of retail market (household consumers)	2021	2022
Consumption of electricity GWh	2,196	2,229
Number of consumers	647,593	654,362
Number of registered electricity suppliers	65	70
Number of active electricity suppliers	25	15
Market share of three biggest sellers by metering points (%)	84	92
Number of retail sellers with a market share of > 5%	4	4
Number of retail sellers with the share of clients > 5%	3	3
Switching Rate	12	2.1
HHI for sales	4,441	5,154
HHI for metering points	5,136	6,511
Indicators of retail market (non-household consumers)	2021	2022
Consumption of electricity GWh	6,150	5,897
Number of consumers	99,229	101,802
Number of registered electricity suppliers	65	70
Number of active electricity suppliers	45	33
Market share of three biggest sellers by metering points	83	73

Number of retail sellers with a market share of > 5%	4	4
Number of retail sellers with the share of clients > 5%	4	4
Switching Rate %	39	12.7
HHI for sales	1,717	2,486
HHI for metering points	4,487	2,277

In 2022 the switching rate was 2.1% for household consumers and 12.7% for business consumers. The number of active electricity traders also fell.

Changing electricity sellers in Estonia is simple and can be accomplished in 1 (one) to 2 (two) months, depending on the date of signing of the new contract, as the switch can be done as the calendar month changes. However, some discontent from the sellers' side can be seen towards the existing system of changing the seller, where the former seller is informed about the departure of a client and there arises an option, so-to-say, to buy back the customer before the actual switch takes place. Such an approach may lead to a practice where a reasonable price is offered to a client only under a kind of under-the-counter win-back offer when the client is more active and attempts to change sellers. At the same time, more expensive price solutions are offered to less active clients, who are often also less aware. Such an approach, where the price does not depend on the package, but rather on the offer made to an individual consumer, is lowering the level of transparency in the market. In October 2022 the universal service regulation entered into force. The new regulation stipulated that if the price of universal service was cheaper than the consumer's existing electricity price, the consumer was automatically switched to universal service.

The Competition Authority conducted an inquiry among electricity sellers which showed that there are approximately 70,000 consumption contracts with exchange packages in Estonia, where the calculation is based on the monthly average exchange price, not the hourly exchange price. The Competition Authority recommended that electricity sellers increase customer awareness and, if the customer so wishes, enable the customer to switch to hourly price calculation³².

Comparison portals and price of electricity for household consumers

In order to promote more equal treatment of consumers and their awareness, the Competition Authority recommends consumers to compare various price solutions by using comparison portals.

The electricity price comparison portal is available at <https://elektrihind.ee/paketid/>.

According to Directive (EU) 2019/944 of the European Parliament and of the Council of 5 June 2019, Member States will ensure that at least household consumers, and microenterprises with an expected yearly consumption of below 100,000 kWh, have free access to at least one electricity price comparison facility. According to the directive, at least one price comparison portal operating on the market must reflect the offers of all sellers operating on the market. The provisions of the directive were adopted into national legislation in March 2022, on the basis of which the Competition Authority was obliged to evaluate comparison portals upon request and to issue corresponding trust marks. Electricity sellers became obliged to transfer the data of their packages to a comparison portal with a trust mark. The Competition Authority gave the trust mark to the comparison portal <https://elektrihind.ee/paketid/>.

³² Press release of the Competition Authority <https://www.konkurentsiamet.ee/et/uudised/konkurentsiamet-soovitab-elektrimuujatel-suurendada-klientide-teadlikkust-borsipaketi>

Table 17. Price of electricity (with network charge and other components) for consumers of distribution service (household and business customers)

Price components	Unit	Average consumer of distribution service (household and business consumer)
Network service (average price for distribution service)	€cents/kWh	3.35
Electricity (electricity market price + margin)	€cents/kWh	19.682
Excise duty on electricity	€cents/kWh	0.1
Support for renewable energy	€cents/kWh	1.13
Total excluding VAT	€cents/kWh	24.26
VAT 20%	€cents/kWh	4.85
Average price with VAT	€cents/kWh	29.11

Notes: the electricity price is based on the average price of 2022 in the Nord Pool Estonian price area + a margin of 0.40 €cents/kWh. The price of the network service is based on the average price of the distribution service. The electricity excise tax is 0.1 €cents/kWh, which came into effect on 1 May 2020.

Table 18. Price of electricity (with network charge and other components) for household consumers in 2022

Price components	Unit	Customer
Network service (base tariff)	€cents/kWh	6.40
Electricity price without network service	€cents/kWh	19.682
Excise duty on electricity (from 1 May 2020)	€cents/kWh	0.1
Support for renewable energy	€cents/kWh	1.13
Final consumer price excluding VAT	€cents/kWh	27.31
VAT 20%	€cents/kWh	5.46
Price for final consumers with VAT	€cents/kWh	32.77

Notes: the electricity price is based on the average price of 2022 in the Nord Pool Estonian price area + a margin of 0.40 €cents/kWh. The network service charge is based on the Elektrilevi OÜ price package called 'Võrk 1'. The electricity excise tax is 0.1 €cents/kWh, which came into effect on 1 May 2020.

While the average final consumer price in 2021 was 18.33 €cents/kWh, the average final consumer price in 2022 was 32.77 €cents/kWh. The high level of the prices on the electricity market in 2022 had the greatest impact on the final consumer price.

In summary, the Estonian retail market is concentrated, evidenced by the high HHI in both the household and non-household segments of the retail market. Although there is a high degree of concentration in the retail market, the possibility for consumers to switch from one electricity seller to another helps to promote competition. It is possible to change the seller electronically in just a few minutes. In addition, there are problems with long-term fixed contract offers to customers. Considerable congestion between Estonia and Finland has led to a situation where Estonian traders' access to long-term financial instruments sold on the Finnish market, which would help to mitigate price risks and thus offer customers better long-term fixed prices, has significantly deteriorated. At the beginning of 2023 price risk hedging instruments will be proposed between Estonia and Finland, which should significantly alleviate this problem. However, on the side that favours the competitive situation in the retail market, it can be pointed out that the sale of electricity is free in Estonia, and a separate activity license is not required. Starting a business in the field of electricity sales in such a simplified way also contributes to competition.

2.3. Security of electricity supply

2.3.1. Security of supply and reliability standard

Safeguarding the security of supply means a situation where the system's needs are covered, that is, the system's demand load and need for reserves are covered by the system's production and import capacity in accordance with the requirements of the reliability standard. Safeguarding of security of supply is evaluated on an annual basis. In this regard, the definition of safeguarding of security of supply has been changed recently as a result of Article 25 of Regulation 2019/943 of the European Parliament and of the Council, which entered into force in 2019, which establishes the requirement that prior to the application of the mechanisms of reserve capacity a Member State will establish a reliability standard as an indicator. Only in the event of the risk of violation of the given level it is possible to implement additional capacity mechanisms. The reliability standard will follow the European-wide methodology referred to in subsection 6 of Article 23 of the Regulation.

Reliability standard

The reliability standard is a security of supply indicator, the purpose of which is to define how many possible hours with consumption limitations (does not mean complete limitation of consumption, but, for example, hours during which there is a necessity to limit consumption by at least a few percent) and at which volume over the course of a year is socially and economically reasonable, without causing excessive costs to society and to the economy due to energy not served. In order to find the respective indicator, it is necessary to conduct an analysis using the methodology⁴ set out by subsection 6 of Article 23 of the 2019 European Electricity Regulation.

According to Article 25 of the 2019 regulation, a reliability standard consists of components such as expected energy not served, or EENS, and loss of load expectation, or LOLE, and the calculation of the standard is based on the following components: value of lost load, or VOLL and cost of new entry, or CONE.

The values of VOLL and CONE must be re-calculated every 5 (five) years and this also causes re-assessment of the reliability standard at five-year intervals.

In order to find VOLL it is necessary to determine the prices which various sectors (industry, service and private sector) consider as their value of electricity not served. This value is in principle the loss caused by one MWh of electricity not supplied or, the maximum price what consumers are willing to pay per MWh in order to avoid interruption.

CONE is also determined according to the methodology approach outlined in subsection 6 of Article 23. The security of supply report of 2020 of Elering AS gives an overview of the standard technology requirements in finding CONE as follows:

- May not be subsidised or supported by the state in any way;
- The solution must be standard. This means that different project developments should not have significant technical or economic differences in respect to the location of establishment. The production method is reliable and the fixed and variable costs are known. The efficiency and profitability of a technology should not depend on the capacity of the unit;
- Added production technology is not going to contradict with the decisions made to achieve climate objectives.

On the basis of CONE and VOLL values the socio-economically optimal number of limitation hours is found according to this formula:

$$\text{LOLE}_{\text{norm}} (\text{h}) = \frac{\text{CONE (EUR/MW)}}{\text{VOLL (EUR/MWh)}}$$

All subsequent electricity system adequacy analyses and parameters are evaluated against the determined normal LOLE and EENS values deriving from it.

Pursuant to Article 11 of the European Electricity Regulation, VOLL is defined by a decision of national regulatory authority (the Competition Authority in Estonia), relying on the methodology outlined in subsection 6 of Article 23 of the Regulation. Pursuant to the Competition Authority's decision No 7-26/2020-007³³ of 3 July 2020, the value of lost load, or VOLL, on the territory of Estonia is 7,287 €/MWh. The Competition Authority carried out a public procurement in 2022–2023 to find the price of energy foregone in Estonia. The final data on the loss of energy price is still being compiled.

Due to the adoption of the 2019 Electricity Regulation in Estonia at the end of 2019 / beginning of 2020, at the order of Elering AS and in cooperation with the Competition Authority and the Ministry of Economic Affairs and Communications, an assessment was conducted in order to find an optimal security of supply level and reliability standard for Estonia with the assistance of a foreign consultant. As a result of the assessment and on the basis of subsection 2 of Article 25 of the regulation, the Competition Authority submitted to the Ministry of Economic Affairs and Communications a proposal on the reliability standard. The Ministry forwarded the proposal to the Government of the Republic for approval. With the amendments approved on 15 May 2021 to the Network Code on the Functioning of the Electricity System, the reliability standard in Estonia was set at 9 (nine) hours per year, and the maximum allowable amount of electricity that remains unsupplied as a result of consumption management and other actions taken to ensure security of supply is 4.5 GWh per year.

It is important to note that a situation where the security of supply is not covered at 100%, or even at a lower level as proposed by the standard, does not automatically mean a system blackout, but a limitation of consumption in the system at the necessary volume. A blackout in the system may occur upon a large deficit of security of supply and the coinciding of unfortunate circumstances, which is a very extreme situation and the risk of it occurring is low. However, a limitation of consumption in the system by over 50% of total consumption is also considered a system blackout according the Regulation (EU) 2017/1485.

If the European annual probabilistic system adequacy assessment (ERAA, European Resource Adequacy Assessment; previously Mid-Term Adequacy Forecast or MAF) would reveal that the actual situation is worse than 9 (nine) hours, the Member State must first eliminate possible market failures that may prevent market-based capacity addition. If the elimination of market failures will not improve the security of supply forecast, a capacity mechanism will be introduced, which is essentially a state aid to the producers, so that they offer the necessary amount of capacity. Permission to introduce a capacity mechanism is given by the European Commission.

2.3.2 Estonia's security of supply from the perspective of the European probabilistic 10-year resource adequacy assessment

Every year, ENTSO-E (the European Network of Transmission System Operators) prepares a pan-European electricity system adequacy assessment (ERAA), based on the methodology approved by the European Union Agency for the Cooperation of Energy Regulators (ACER) in accordance with Article 23 of Regulation (EU) 2019/943. The assessment is based on the data provided by the European system

³³ https://www.konkurentsiamet.ee/sites/default/files/saamata_jaanud_energia_hind_0.pdf

operators on production capacities, consumption and transmission capacities of each country and the Pan-European Market Modelling Data Base (PEMMDB) containing the collected data. The report is carried out with a 10-year perspective and the assessment carried out in 2022 was made until 2030³⁴. The results show the adequacy indicators of the electricity system of all European countries (loss of load expectation, LOLE, and expected energy not served, EENS) for 2025, 2027 and 2030. The analysis of these years is based on data included in the national energy and climate plans presented by all the EU Member States.

ERAA 2022 analyses the aforementioned years of 2025, 2027 and 2030 based on several different scenarios:

1. LOLE values for the 2025 generic reference scenario without the capacity mechanism;
2. LOLE values for the 2027 generic reference scenario without the capacity mechanism;
3. LOLE values for the 2030 generic reference scenario without the capacity mechanism.

More detailed results for 2022 of the ERAA analysis for Europe are also shown in Figures 9–11 below.

³⁴ <https://www.entsoe.eu/outlooks/eraa/2022/>

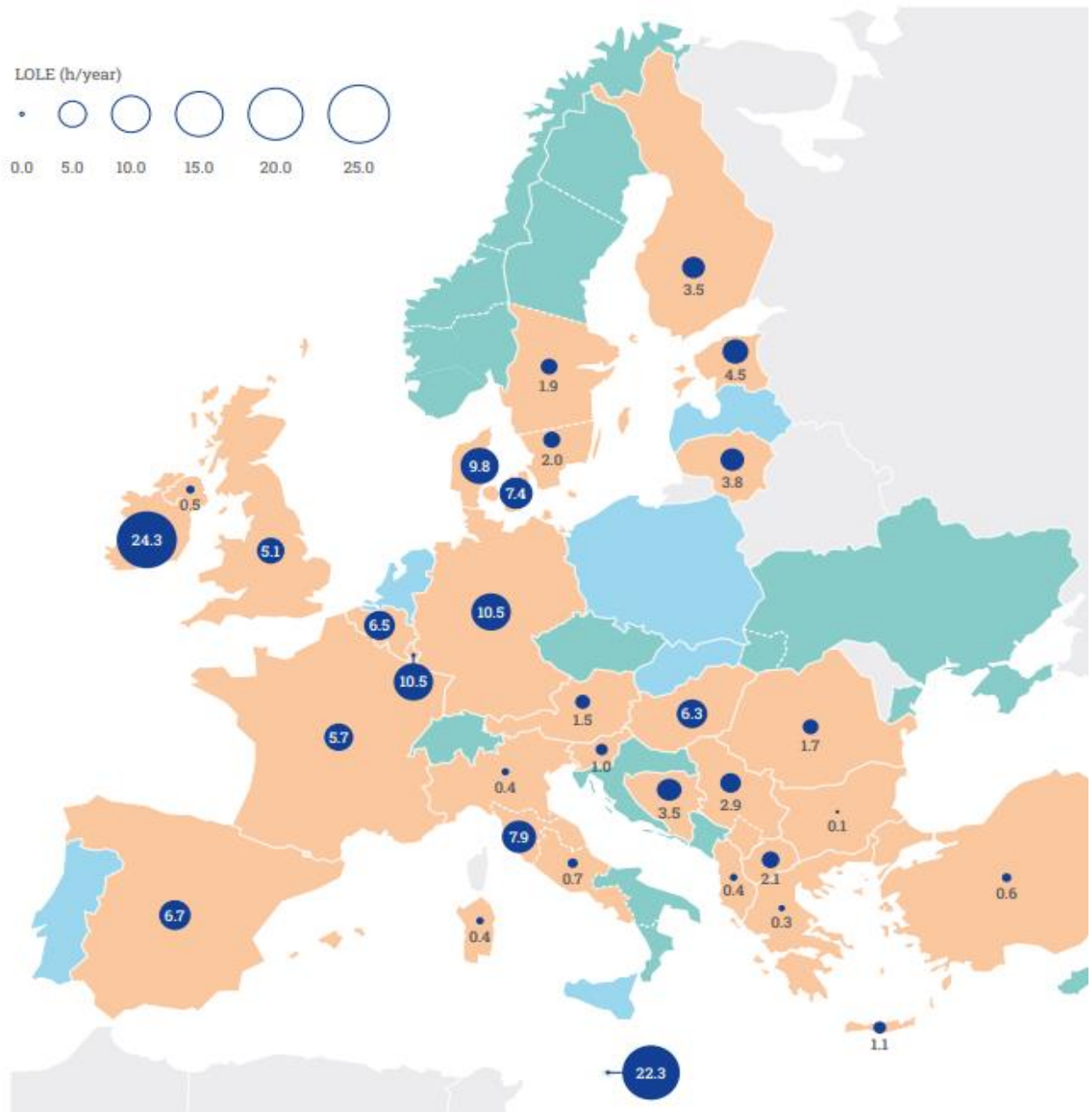


Figure 9. LOLE values for the 2025 generic reference scenario without the capacity mechanism

According to Figure 9, Ireland has the highest LOLE of 24.3 h/year, followed by Malta with 22.3 h/year. In Estonia, the value of LOLE is 4.5 h/year, which does not exceed the established security of supply standard of 9 h/year.

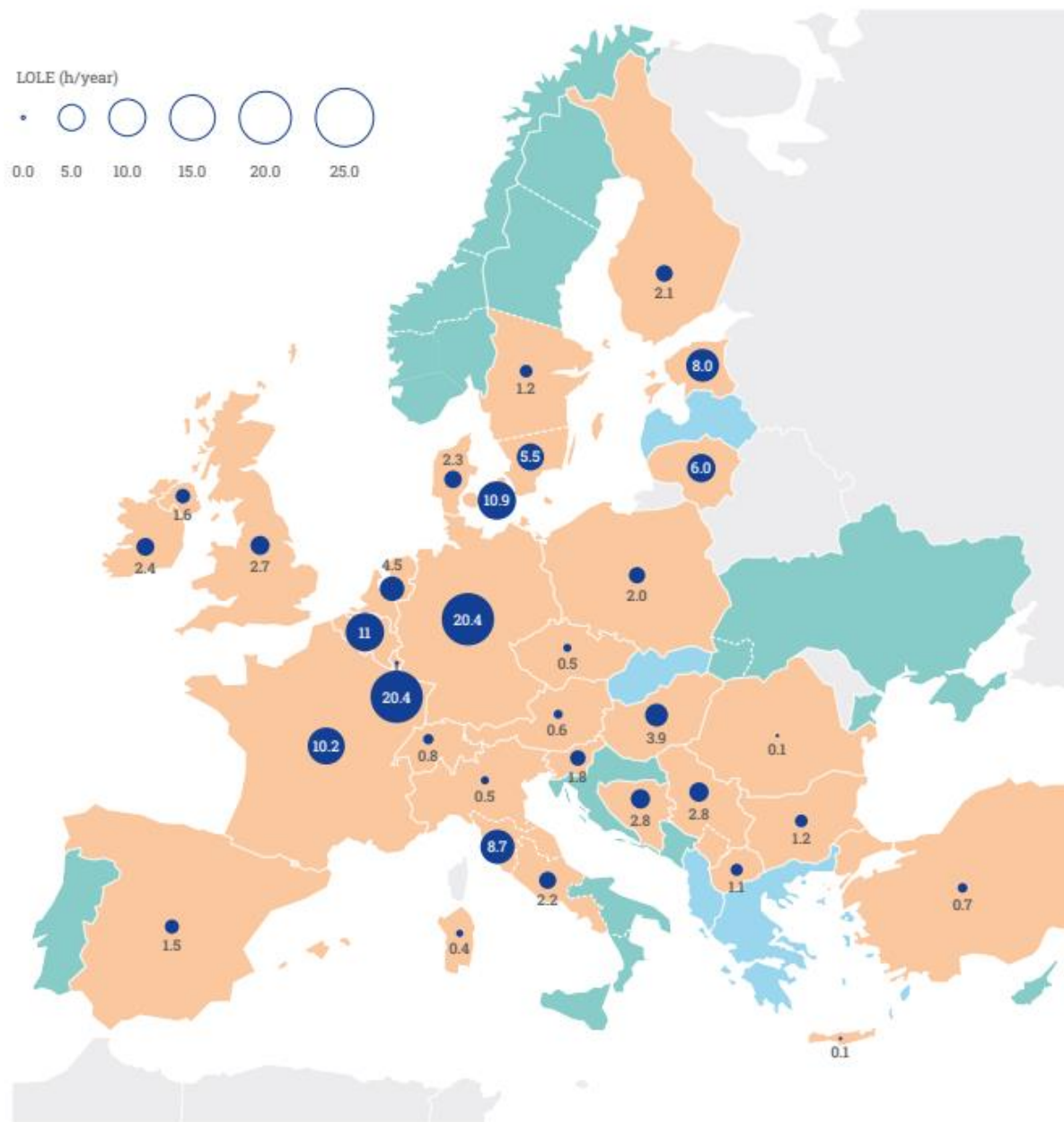


Figure 11. LOLE values for the 2030 generic reference scenario without the capacity mechanism

According to Figure 11, Germany and Luxembourg show the highest LOLE values of 20.4 h/year, followed by Belgium with 11 h/year. Estonia's LOLE value in 2030 is 8.0 h/year.

2.3.3. Security of supply in Estonia from the perspective of system adequacy

Historically the majority of electricity in Estonia has been produced from oil shale in Eesti Energia's Narva Power Plants (PP). Keeping in mind that unit 1 of Balti PP was commissioned in 1959 and Eesti PP achieved its designed capacity in 1973, the Narva PP have, over the course of 45 (forty-five) years, been some of the principal energy producers in the Baltic region. Estonia is accustomed to a situation where we have considerably more production capacities than consumption demand. Since the closing of Ignalina nuclear PP in 2009, Estonia has been the main supplier of energy and the electricity exporting energy system in the Baltic region. It is important to understand that such a situation is going to change drastically in the coming years. Estonia's electricity production from oil shale is very carbon intensive,

although the burning of wood chips has been partially introduced, and in addition, they help to dispose of oil shale gas generated in the production of oil shale oil.

Production capacities and their growth

According to Elering's security of supply report 2022, based on data received from producers, the biggest changes in production capacities compared to 2021 are the following.

- Installed solar energy has increased from 128 MW (1 January 2020) to 335 MW (October 2021). This was probably due to the favourable support measures that could be applied for and the general cheapening of technology and gained experience. If we consider the solar parks that have been completed but not connected to the grid, the total would be 465 MW. See Annex 2 for the distribution of solar power plants by county;
- On May 21 it was announced that the twelfth block of Enefit Power's Baltic power plant was closed for good. The capacity of the block was 130 MW;
- According to Eesti Energia's strategy document, electricity production from oil shale will be stopped by 2030, this fuel will be replaced by biomass and oil shale gas. The production of electricity from oil shale gas will cease by 2035, and by that time the goal that electricity production will be carbon neutral has been set.

Table 19. Estonian production capacities as of 2022 (Elering³⁵)

Power plant	Installed net capacity, MW	Fixed ³⁶ Production capacity, MW	
Eesti Power Plant	866	799	
Balti Power Plant	192	177	
Auvere Power Plant	272	250	
Iru Power Plant – gas unit	94	0	
Iru Power Plant – municipal solid waste unit	17	111	
Northern Thermal Power Station	77		
Sillamäe Heat and Power Plant	23		
Utilitas Tallinn Power Plant	39		
Tartu Power Plant	22		
Pärnu Power Plant	21		
Enefit Power Plant	10		
Other industrial and cogeneration plants	75		
Total	1,708		1,337
Non-market capacities			
Kiisa Emergency Reserve Power Plant	250	250	
Renewable energy power plants			
Hydroelectric plants	8	0	
Wind mills	317	0	
Solar power plants	510	0	

³⁵ <https://elering.ee/sites/default/files/2021-12/Varustuskindlus%202021%20lk.pdf> Annex 2.

³⁶ Many production units have different significant constraints, which is why Elering uses more conservative or 'fixed' capacities based on historical data to assess security of supply.

In a broader context there is a problem with adequacy of production capacity in Estonia. Few new production capacities are coming to the market and their capacity is limited, yet oil-shale-based production capacity will be closed in the long run.

From the perspective of competitiveness of the economy, the preferred approach is when the establishment of new production capacities takes place in free market conditions with as little interference by the state as possible. Yet, the European markets are troubled by various market constraints, which has led to a situation where, in order to ensure security of supply in several Member States, the construction of new production capacities based only on free market principles has been questioned and a great deal of reserve capacity is used in the form of different capacity mechanisms.

Conclusive assessment of the Competition Authority on security of supply in Estonia until 2030

- **Based on current best knowledge, the problem of security of electricity supply will emerge in 2027.**
- Adequacy of the electricity system is assessed on the basis of the reliability standard using the probabilistic method, pursuant to the European Electricity Regulation. To support the probabilistic method, the deterministic method is also used, which Elering has given a more detailed overview of in its security of supply report 2022³⁷.
- Currently, the reliability standard proposal provides for up to 9 (nine) hours per year, where there may be a need to limit consumption on a small scale.
- The European Resource Adequacy Assessment (ERAA), which examines the system adequacy of countries within the elements of the security of supply standard (expected energy not delivered and expected loss of the capacity in the form of interruption hours) per year, does foresee security of supply problems for Estonia in 2027. The number of interruption hours for 2027 is well below the number stipulated in the security of supply standard proposal. Therefore, there is a need at the current stage to implement capacity mechanisms.
- New production capacities are expected from the side of renewable energy (solar and wind). In addition, in the energy system of the future, the flexibility of consumption and the possibilities of consumption management will become more and more important, which can also make a great contribution to ensuring security of supply.
- The state, as the owner of Eesti Energia, has set an expectation for Eesti Energia that they must ensure a controllable power generation capacity within Estonia of at least 1000 MW until the end of 2026, regardless of the water level in the Narva River and the reservoir, except during the period necessary for regular maintenance and repairs or elimination of breakdowns. At the same time, Eesti Energia must maintain at least 900 MW of capacity in the cold reserve from November 1 to February 28 and at least 600 MW from March 1 to October 31³⁸.

Next steps

- Review of the security of supply standard every 5 (five) years.
- As security of supply problems have been identified for 2027, the Competition Authority will prepare an analysis of market failures³⁹ as a prerequisite to start discussing the possibility of introducing a capacity mechanism, if necessary, in cooperation with the European Commission. For Estonia, the probable capacity mechanism would be a strategic reserve.

³⁷ https://www.elering.ee/sites/default/files/2023-05/elering_vka_2022.pdf

³⁸ <https://s3.documentcloud.org/documents/22259669/omaniku-ootused-eesti-energia-as-le.pdf>

³⁹ The market failure analysis is currently being prepared by the Competition Authority.

3. Natural gas market

Both in 2021 and 2022 the increase in natural gas prices was one of the causes of the energy price shock, and it was further exacerbated by Russia's war against Ukraine. Gas consumption in Estonia has been falling over the years and will not rise in the coming year as the EU continues to impose that gas consumption must be reduced in Member States.

3.1. Regulation of natural gas network

The main challenge of 2022 regarding the regulation of the natural gas network was the opening of the regional common tariff zone in the FINESTLAT region (covering Finland, Estonia and Latvia) from 1 January 2020. In 2022 work continued with the aim of Lithuania joining the common tariff zone. The most significant milestones in this process were:

- Completion of Balticconnector at the end of 2019 and partial start of operations in 2020;
- 2021 Completion of Paldiski and Puiatu compressor stations, which increased the capacity provided to Balticconnector;
- 2020 Opening of the common tariff zone of Finland, Estonia and Latvia (FINESTLAT);
- 2020 Opening of the Estonia-Latvia common balancing zone;
- By the end of 2021, the Baltic gas system was connected to the rest of Europe through the Lithuanian–Polish gas connection GIPL. The project created an additional supply channel to increase security of supply. The completed pipeline was put on the market for use in mid-2022;
- In autumn 2022 Finland's Inkoo LNG terminal and the receiving capacity of the Paldiski LNG terminal were completed;
- The common Baltic–Finnish tariff zone with Lithuania is planned to be operational in 2024.

3.1.1. Technical functioning

The Estonian gas transmission network consists of 978.3 km of gas pipelines, of which 39.0 km is the BC submarine pipeline, 4 gas metering stations where gas volumes entering the transmission network are measured and gas quality determined, 36 gas distribution stations, where the pressure of the gas leaving the transmission network is reduced, volumes are measured, the gas is scented and the agreed consumption regime is ensured, 2 compressor stations (Paldiski and Puiatu compressor station) and 1 gas pressure regulation station (Kiili), which allows parts of the transmission network to be controlled at different operating pressures. The amount of gas coming out of the pipeline of the Balticconnector system is also measured at the Kiili GRJ, but the Kiili GRJ is not directly categorised as a gas metering station. The Paldiski gas metering station allows the Estonian side to measure the amount of gas passing through Balticconnector bidirectionally. Based on the cooperation agreement between the system operators, gas volumes will be measured alternately on the Finnish side at the Inkoo gas metering station and on the Estonian side at the Paldiski gas metering station. At the end of 2022 a network connection to connect a potential LNG offshore terminal to the transmission network will be completed. The Estonian gas transmission network has been laid out in Figure 12.

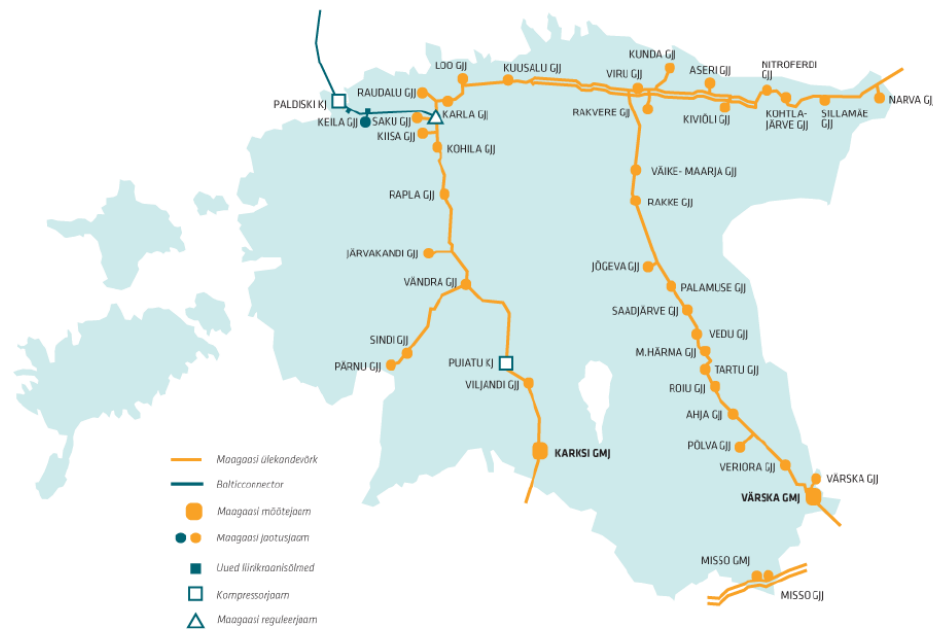


Figure 12. Transmission network of the Estonian gas system in 2022 (*Elering*)

The Estonian gas system is part of the regional gas system and gas market, and it is directly connected with the Russian, Latvian and Finnish gas systems as well as indirectly with the Lithuanian gas system, and now also with the Central Europe gas system through GIPL. In addition, the Estonian transmission network also serves as a transit corridor between Latvia and Finland and to some extent also between Russia and Latvia. The Estonian system is connected with Russia through the Narva and Värskä connection points. As of 2019 the Narva connection is no longer in commercial use and it is only possible to use this connection to ensure the technical supply of gas between the system operators in order to feed the gas stations connected through the pipeline. On 29 September 2022 the Government of the Republic of Estonia adopted a decree banning the purchase of natural gas and LNG due to the aggression of the Russian Federation in Ukraine, supported by the Republic of Belarus⁴⁰. The regulation entered into force on 31 December 2022. Karksi serves as the connection point between Estonia and Latvia and the connection between Estonia and Finland is achieved through the Balticconnector connection (from 2020). In addition to the aforementioned connections, Estonia has two more connection points with neighbouring countries: the Korneti (with Latvia) and Misso (with Russia), which are used to transport

⁴⁰ [The decree of the Government of the Republic of Estonia on the banning of the purchase of natural gas and LNG due to the aggression of the Russian Federation in Ukraine, supported by the Republic of Belarus](#)

gas between Russia and Latvia through the parallel pipelines (Izborsk-Inšukalns and Pskov-Riga). The regional gas transmission network has been laid out in Figure 13.



Figure 13. Regional gas transmission network in 2022 (ENTSO-G)

In 2022 the area around Misso is also supplied with gas through these connections. The Misso, Korneti and Karksi points are located within the common gas zone. Thus, the Misso and Korneti entry capacity is transferred to the virtual Luhamaa point, which serves as the entry to the common gas zone. The Ukrainian war that broke out at the beginning of 2022 has stopped Russian gas supplies to Estonia. Table 20 reflects the technical data of the entry and exit points of the Estonian gas system.

Table 20. Technical transmission capacity of connection points (ENTSOG, Elering AS, GET Baltic)

Connection point	Direction	Technical transmission capacity, GWh/day	Transmission capacity under normal conditions, GWh/day
Narva connection	RU->EE	0	0
Värskas GMJ	RU->EE	0	0

Luhamaa connection	RU->EE	0	0
	EE->RU	0	0
Karksi GMJ	LV->EE	73.5	73.5
	EE->LV	105	73.5
Balticconnector ¹	EE->FI	81.2	56.8
	FI->EE	67.2	38.9

¹ The capacity of Balticconnector was put on the market in January 2020 with limited capacity. Changes in capacity are promptly reported to market participants

The gas balance of the Estonian gas system in the years 2019–2022 is presented in Table 21. Due to the completion of the Balticconnector connection in 2020, export of gas has been added to the Estonian gas system.

Table 21. Estonian gas balance, GWh (*Elering AS*)

Gas balance	2019	2020	2021	2022
Total gas entered into the transmission network	23,988.51	12,977.92	11,371.20	11,514.21
Gas entered into transmission network in border crossing points (without transit)	4,808.34	12,977.92	11,371.20	11,514.21
Karksi GMJ	2,449.88	10,100.65	10,525.57	10,512.13
Värskä GMJ	2,357.4	2,876.22	776.37	400.71
Narva GMJ	0	0	0	0
Misso GMJ	1.06	1.05	1.24	1.07
Balticconnector		0	68.03	600.30
Total exit gas from the transmission network	23,967.71	12,961.99	11,359.98	11,501.46
Domestic transmission service	4,773.22	4,480.13	5,074.56	3,776.77
Losses in the transmission network	12.62	6.14	13.81	15.58
Export		8,481.22	6,276.94	7,721.66
Karksi GMJ		10.46	3.11	324.90
Balticconnector		8,470.76	6,273.83	7,396.76

Table 22 presents the monthly gas flows in 2022 in border crossing points in greater detail, where negative values indicate the gas exiting the system and positive values entering the system. It can be concluded from the table that Balticconnector has predominantly acted as a gas exporting connection during 2022, except for February, March, April and May, when a total of 600.30 GWh was imported through the Balticconnector connection (this volume is not presented in Table 22). In addition to Balticconnector, Karksi also acted as an export connection during the year, with a volume of 324.90 GWh. Table 22 reflects the total gas flow of the Karksi connection entering into the node, ie, both local consumption and export through Balticconnector to Finland. In 2022 the situation of the gas system has changed significantly.

Table 22. Monthly gas flows in border crossing points in 2022, GWh (*Elering AS*)

Period	Balticconnector	Karksi GMJ	Värskas GMJ
January	1,037.00	1,672.49	0
February	-733.67	1,224.18	24.15
March	-9.51	20.02	372.54
April	-380.54	711.53	3.98
May	-288.01	359.34	0
June	809.07	967.08	0
July	-725.05	848.60	0
August	-724.37	859.98	0
September	-637.00	806.14	0
October	-481.04	680.25	0
November	-638.08	960.83	0
December	-939.62	1,398.70	0
Total	-7,402.97	-10,509.15	400.67

3.1.2. Prices for the use of gas network and connecting thereto

Until 1 January 2020 commodity-based transmission exit prices were in force. Entry price was not applied in Estonia. In addition, a transit price was established on the Luhamaa-Korneti gas stream (RU – EE – LV).

In connection with the implementation of Commission Regulation (EU) 2017/460, which establishes a network code on harmonised transmission tariff structures for gas in Estonia, the transmission service prices changed considerably and fundamentally.

In 2019 the Competition Authority developed and established for the first time a separate methodology for the calculation of gas transmission network service prices⁴¹. Earlier a single methodology was used for the calculation of both transmission network and distribution network service prices. Pursuant to the gas transmission network service prices approved in 2019 on the basis of the new methodology, the entry and exit prices for intra-system and cross-system network use will apply from 2020. Pursuant to the rules set out in the Regulation, a consultation of market participants was carried out in 2019 and the consultation document was submitted to ACER for analysis. In its analysis ACER made a number of proposals to improve the price consultation in the future.

By the Competition Authority's decision no 7-3/2019-054 of 30 September 2019, capacity-based entry and exit prices⁴² and multipliers of capacity products were approved separately for the first time in Estonia.

The most important keywords for the new methodology and the transmission network prices approved on the basis of it are as follows:

- In accordance with Commission Regulation (EU) 2017/460 and in conjunction with the Natural Gas Act, the price cap regime in which the regulator approves the fixed transmission prices is applied in Estonia;
- In the calculation of transmission prices in Estonia, the alone-standing postage stamp reference price method is applied;

⁴¹ [Competition Authority Coordination of network service prices](#)

⁴² [Competition Authority Coordinated methodologies for calculating the connection fee for natural gas networks](#)

- The entry prices are harmonised with neighbouring countries (Latvia and Finland) by adjustment, based on the average entry price of European Union Member States as calculated on the basis of a benchmark study, to which an error margin has been added;
- The connection points between the countries of the FINESTLAT market region are abandoned when calculating reference prices;
- The assumable compensations between the system operators (ITC) are minimised through the exit tariffs of each country participating in the cooperation.

The FINESTLAT market arrangement ensures access to the market for gas with the lowest offered price in the region entries for the consumers for all three countries without additional costs in the connection points.

A challenge for the future is to find an allocation of entry revenue satisfactory for Lithuania that would facilitate the emergence of a common market for the four countries.

Connecting to both the transmission and distribution network is cost-based, as set out in the Natural Gas Act. A network operator has a right to charge connectees a justified connection fee. When calculating the connection fee, the basis for the calculation is the need to ensure that the justified expenses for the particular connection are covered, among other things:

- investments, including the construction of the metering system;
- compliance with environmental requirements;
- compliance with quality and safety requirements.

The connection fee is calculated by the network operator based on the methodology for calculating connection fees, which has been approved by the Competition Authority.

Pursuant to section 1 of Article 41 of Directive 2009/73/EC of the European Parliament and of the Council, the regulatory authority will follow established conditions of access to gas storage, to gas stored in the pipeline (linepack) and other ancillary services. There are no gas storages in Estonia, the linepack gas is not used for commercial purposes and there are no other ancillary services provided by the system operator. Due to the small size of the transmission system, the Competition Authority considers the situation where the linepack gas is not used for commercial purposes and there are no other ancillary services provided by the system operator as being justified.

The FINESTLAT common tariff zone is a unique system in the European gas market within the EU, where the free movement of goods (gas) takes place between three countries without any limitation. According to the assessment of the Competition Authority, the application of the postage stamp system during 2020 has been well justified, because it does not matter what the original source of gas is – consumers can use it at an equal network service price, thus ensuring more equal opportunities for consumers in the region.

3.1.3. Balance Responsibility

Pursuant to the Natural Gas Act, the balance provider is a market participant that has entered into a balance contract with the system operator to ensure the balance. Thus, a market participant themselves is a balance provider unless they have delegated by contract the balance responsibility to the seller or to another balance provider. The balance provider of household consumers is the seller.

Each market participant has one open supplier. In order to purchase the gas used to provide network services, the network operator must have one open supplier for the network boundary points. The customer and the producer each have one open supplier per metering point.

Elering AS, as the system operator, is responsible for ensuring balance in the Estonian gas system and for the settlement of balances of the balance providers. The open supply contract between the balance provider and the system operator is called a balance contract, the standard terms and conditions of which are public and the same for all balance providers. The balance service which is provided under the contract sets out the procedure for balance management and the conditions for buying and selling balance gas. The system operator elaborates the standard terms and conditions for balance contracts and the methodology for determining the price of balance gas, and obtains approval concerning those terms and conditions and methodology from the Competition Authority.

In 2019 the Estonian and Latvian system operators prepared guidelines and standard terms and conditions for balance contracts for the common balancing zone of Estonia and Latvia. The regulators of both countries approved them (the Competition Authority by its decision no 7-10/2019-007⁴³ of 30 September 2019) and the zone commenced operation in 2020. The common standard terms and conditions also establish a common methodology for determining the balance gas price and neutrality charge for balancing.

The description of the balance gas price calculation methodology, which entered into force in the beginning of 2020, is provided in Chapter 8 of the common standard terms and conditions for the balance contract.

The marginal sell price (MSP) of the balance gas for gas day D will be equal to the lower of:

- the lowest price of any sales of title products where a system operator was involved at relevant trading platforms on gas day D;
- the weighted average price of all trades in title products at relevant trading platforms on gas day D, multiplied by the MSP incentive factor.

The marginal buy price (MBP) of the balance gas for gas day D will be equal to the higher of:

- the highest price of any purchases of title products where a system operator was involved at relevant trading platforms on gas day D;
- the weighted average price of all trades in title products at relevant trading platforms on gas day D, multiplied by the MBP incentive factor.

The MSP incentive factor may be between the range of 0.9 and 0.95 while the MBP may be between the range of 1.05 and 1.1. The system operator publishes on its website the MBP and MSP incentive factors for the next year by 1 November of each year. The system operator may readjust the incentive factors during the year by giving an advance notice thereof of at least 3 (three) calendar days. From 1 July 2020 the MPB incentive factor is 1.1 and the MSP incentive factor 0.9.

According to the standard terms and conditions of the common gas zone and with the objective of ensuring the financial neutrality of the system operators, as of 2020 a separate component in the form of a neutrality charge per gas day was set. Neutrality charges are determined taking into account the following potential revenues and costs:

- costs and revenues of the system operator arising from daily imbalance charges;
- costs and revenues of the system operator arising from the balancing actions;
- administrative costs of the system operator arising from the balancing actions;
- other costs and revenues of the system operator related to the balancing actions performed by the system operator.

⁴³ [Competition Authority EE–LV common standard terms and conditions for gas balancing rules](#)

Neutrality charge will be applied to the network users' portfolio based on the sum of network user's off-takes (including domestic consumption, volumes exited cross-border and sold at virtual trading points).

The advantage of a common balancing zone is that the balance provider can consider imbalances based on region instead of country, which should reduce the costs of maintaining balance for the balance providers operating in both countries. The prices for balance gas can be found at the website of Elering⁴⁴.

⁴⁴ [Elering Live Balance Gas Prices](#)

3.1.4. Cross-border capacity allocation and congestion management

In relation to the creation of the common balancing zone of Estonia and Latvia from 1 January 2020, the Estonian and Latvian system operators prepared common standard terms and conditions for the network contracts, which regulate third-party capacity use and cross-border infrastructure access conditions, methodology for transmission capacity allocation and both contractual and physical congestion management methodology in the gas zone of Estonia and Latvia.

The Competition Authority approved the common standard terms and conditions for the network contracts on 30 September 2019 by its decision No 7-10/2019-007. These standard terms and conditions were also approved by the Latvian energy regulator. In 2020 in connection with the commencement of operations of the balancing zone of Estonia and Latvia, the need to modify these common standard terms and conditions for network contracts arose. The modifications proposed by the Estonian and Latvian system operators were approved by the Competition Authority on 23 April 2020 by its decision no 7-10/2020-001. The modifications were also approved by the Latvian energy regulator.

The capacity allocation mechanism for Balticconnector was agreed upon by the Estonian and Finnish system operators and approved by the respective energy regulators of Estonia and Finland. On the basis of respective agreement and decisions, the day-ahead and intraday implicit capacity allocation products of Balticconnector are used, at least until 2022. The respective decision is reviewed by the Finnish regulatory authority annually and by the Competition Authority according to necessity (when the market situation so requires).

On 1 January 2020 the single tariff zone for Finland, Estonia and Latvia (FinEstLat) became operational. The merger of FinEstLat meant the integration of the Finnish, Estonian and Latvian markets, the abolition of the region's internal tariffs and the introduction of the same level of entry tariffs in the region, applying the Interconnection Compensation (ITC) mechanism. The results of the operation of the FinEstLat single entry tariff zone were and are very positive.

Further market integration, the interconnection of the FinEstLat and Lithuanian gas markets was a clear opportunity for the Baltic States and Finland to benefit from the existing and future infrastructure, such as gas storage facilities, LNG terminals, Balticconnector and Gas Interconnection Poland–Lithuania (GIPL). In addition, extending the single entry system would further integrate four relatively small national markets and significantly increase competition. To achieve this, at the beginning of 2020, energy ministries, national regulatory authorities and gas transmission system operators from Estonia, Finland, Latvia and Lithuania agreed on an action plan to set up the processes necessary for the integration of the future regional gas market.

However, the change in the geopolitical situation in 2022 has led to significant changes in the fundamental functioning of the gas market in the region. The FinBalt market is facing challenges that it has not faced before, and these turbulences still persist. As a consequence, the ITC mechanism, which was developed on the basis of other assumptions about the functioning of the market, is no longer appropriate to the current situation and may not be beneficial for the relevant parties.

Therefore, on 12 October 2022, the chairpersons of the FinBalt national regulatory authorities agreed to postpone the merger, stipulating that the merger could take place no earlier than October 2024⁴⁵. The reservation of entry and exit capacities with Finland, Russia and Lithuania takes place by trading through the IT platform of the common balance zone managed by the Estonian and Latvian system

⁴⁵ [Competition Authority Postponing the FinBalt merger](#)

operators (Elering AS and Conexus Baltic Grid) or trading on the gas exchange GET Baltic⁴⁶, where the capacity is allocated at implicit auctions, using the FCFS (first come first served) principle.

While in relation to Balticconnector only implicit allocation is used, other connection points of the Estonia–Latvia gas zone (Värskä, Luhamaa-Korneti, Kiemenai) also offer conventional (explicit) annual, quarterly and monthly products in addition to the day-ahead and intraday implicit allocation products. For those, the FCFS⁴⁷ allocation principle is applied.

In the case of contractual congestion the following measures are used:

- surrender of the contractual capacity;
- mechanism corresponding to the long-term UIOLI⁴⁸ principle;
- oversubscription and buy-back scheme.

In the case of physical congestion, the interruptible capacity is limited first and after that the firm capacity is limited. In the first instance the transmission capacity, which is sold as a short term service, is limited (this means that the one-year capacity service is limited last).

Transmission capacity is limited proportionally to network users with the same service. The network operator notifies the network user of a transmission capacity limitation as soon as possible in a format which can be reproduced in writing.

3.1.5. Application of network codes and guidelines of the European Union

The network code of the European Union is not applicable on the connection points of Member States if any relevant Member State has been exempted from Article 49 of Directive 2009/73/EC. Clause 1 of Article 49 of Directive 2009/73/EC explains that Estonia, Latvia and/or Finland have an exemption as long as any of the Member States in question are directly connected to the interconnected network of a Member State other than Estonia, Latvia, Lithuania and Finland.

The common standard terms and conditions for balance contracts which were implemented in 2019 (approved by the Competition Authority on 15 January 2016 by decision no 7.1-11/16-001) are in compliance with Regulation (EU) No 312/2014 establishing a Network Code on Gas Balancing of Transmission Networks (BAL)⁴⁹.

In 2019 Elering AS commissioned a gas data hub, which is in compliance with Regulation (EU) 2015/703, establishing network code on interoperability and data exchange rules (INT).

In 2019 the Competition Authority approved the standard terms and conditions of the joint Estonian–Latvian network contract (Decision No 7-10/2019-007 of 30 September 2019), which are fully in line with Commission Regulation (EU) 2017/459 laying down the network code for capacity allocation mechanisms for gas transmission systems (CAM)⁵⁰, the standard terms and conditions of the joint

⁴⁶ [GetBaltic Implicit Capacity Allocation](#)

⁴⁷ The FCFS (*first come first served*) principle is a capacity allocation method in which capacity is first allocated to the network users who have requested capacity reservation earlier.

⁴⁸ The UIOLI (use it or lose it) principle is a procedure for redistribution of power in the transmission system whereby reserved but unused capacity is made available to those who wish to use it.

⁴⁹ [COMMISSION REGULATION \(EU\) No 312/2014 of 26 March 2014 establishing a network code on gas balancing of transmission networks](#)

⁵⁰ [COMMISSION REGULATION \(EU\) 2017/459 of 16 March 2017 laying down the network code for gas transmission system capacity allocation mechanisms and repealing Regulation \(EU\) No 984/2013](#)

Estonian–Latvian balance contract (30 September 2019 by Decision No 7-10/2019-007), which are fully in line with the BAL network code, and the new transmission tariffs, which were coordinated in accordance with the European Commission Regulation (EU) 2017/460 laying down a network code on the principles for a harmonised structure of transmission tariffs for gas (TAR).

The Estonian–Latvian common standard terms and conditions for network and balance contracts are also in compliance with the INT.

By the Competition Authority’s decision No 7-3/2019-054 of 30 September 2019, entry and exit prices⁵¹ and multipliers of capacity products were approved separately for the first time in Estonia.

Disclosure of data on the basis of REMIT and conducted supervisory proceedings

Pursuant to subsection 1 of §37 of the Natural Gas Act (NGA), market participants engaged in wholesale trade observe the requirements established in Regulation (EU) No 1227/2011 of the European Parliament and of the Council on wholesale energy market integrity and transparency (hereinafter REMIT). The REMIT regulation sets out requirements on how market participants must disclose the market-influencing inside information in their possession. Such information must be disclosed in a timely and proper manner in the form of early market notifications. ACER has issued guidance on the correct implementation of REMIT, which is updated regularly (the fifth version was published on 18 November 2020⁵²). If there is a suspicion that a market participant has violated the requirements of REMIT, the Competition Authority is obliged to carry out supervisory proceedings in order to identify the violation and to resolve it.

1. Supervisory proceedings on disclosure of data of the Värskä entry point

In 2020 suspicion of a REMIT violation arose in connection with Elering’s market announcement on the limitations on the Värskä entry point, due to a corresponding complaint received by the Competition Authority. The authority initiated supervisory proceedings against Elering AS on 17 August 2020. The supervisory proceedings were terminated on 7 June 2021 and no violation on the part of Elering was identified. Nonetheless, the Competition Authority made a number of proposals to Elering AS to ensure greater clarity in the future release of information. A report on the relevant supervisory proceedings is published on the authority’s website⁵³.

2. Issues with disclosure of the capacity of Balticconnector

Enabling the use of the Balticconnector connection at its full capacity for the market was originally planned for 15 June 2020. Unfortunately, the completion of Puiatu and Paldiski compressor stations, very much needed in the Estonian network, was delayed, and as a result Elering postponed the deadline for the completion of the connection several times and a situation arose where market participants had no clear information on when the compressor stations would be completed. Only in June 2021 were the stations commissioned and made available to the market. Market participants expressed deep dissatisfaction with the limited access to information, which prevented gas selling companies from adequately planning their activities. The Competition Authority received many complaints from market participants in 2020.

⁵¹ [Competition Authority Coordinated methodologies for calculating the connection fee for natural gas networks](#)

⁵² [ACER Guidance on the application of Regulation \(EU\) No 1227/2011 of the European Parliament and of the Council of 25 October 2011 on wholesale energy market integrity and transparency](#)

⁵³ [Competition Authority Notice on the termination of the supervisory proceedings and recommendation for further action](#)

In connection with this the, Competition Authority initiated REMIT-based supervisory proceedings on 8 January 2021 concerning Elering’s publication of information on the capacity of Balticconnector. Additionally, in 2021 the Competition Authority conducted an analysis to investigate the reasons for the delay in the commissioning of Balticconnector. The results of the respective analysis were published comprehensively on the website of the Competition Authority on 12 July 2021⁵⁴.

On 29 October 2021 the Competition Authority imposed a fine of 10,000 euros on Elering AS under the Natural Gas Act for violating Regulation (EU) No 1227/2011 of the European Parliament and of the Council on wholesale energy market integrity and transparency (REMIT). On 7 March 2022 Elering AS challenged the fine imposed on them by the Competition Authority for violating the rules of the wholesale energy market. On 22 March 2022 the Harju County Court decided to annul the fine imposed by the Competition Authority on Elering AS and the Supreme Court did not hear the cassation appeal of the Competition Authority. Notwithstanding the above, the authority considers that the initiation of the misdemeanour proceedings was justified and that the procedure carried out will contribute to the supervision of the REMIT requirements in future practice.

3.1.6. Technical performance indicators of the transmission network

The technical performance indicators of the Estonian gas network in the years 2019–2022 are presented in Table 23. The length of the gas network in the transmission system has increased by 2 km, while 5.7 km of pipelines have been added to the distribution network over the years. The daily maximum consumption of gas (GWh/day) in 2022 has decreased by 25% compared to 2021. The length of the core network has increased due to the construction of the Paldiski LNG offshore terminal.

Table 23. Technical performance indicators of the gas network (based on an inquiry by Elering AS and the Competition Authority)

Indicator	2019	2020	2021	2022
Maximum daily consumption of gas (GWh/day)	34.9	29.0	42.1	32.79
Entry capacity of the pipelines (GWh/year)	23,989	12,978	76,866	85,809
Exit capacity of the pipelines (GWh/year)	0	8,481	52,419	61,511
Number of transmission network operators	1	1	1	1
Length of transmission network (km) ¹	976.3	976.3	976.3	978.3
Number of distribution network operators	23	23	23	23
Length of distribution network (km) ¹	2,241	2,263.7	2,291.6	2,297.3
Average upper heating value used (kWh/m ³)	10.474	10.510	10.480	10.580

¹ Updated data for 2019–2021

⁵⁴ [Competition Authority investigated the reasons for the delay in the commissioning of Balticconnector](#)

3.2. Competition and functioning of the market

3.2.1. Wholesale markets

Clause 29 of Article 2 of Directive 2009/73/EC of the European Parliament and of the Council explains that a wholesale trader is a natural or legal person who purchases natural gas for the purpose of resale inside or outside the system where they are established. Wholesale traders do not include transmission and distribution system operators.

The consumption of gas characterises the changes in the Estonian wholesale market. Figure 14 presents the consumption of gas (in GWh) in Estonia since 2008. The data only reflects natural gas indicators as the share of biomethane in the gas network is marginal. The figure shows that the wholesale gas market and natural gas consumption in Estonia in 2022 is continuing its long-term downward trend, with 1182 GWh, or 26.3%, less consumption in Estonia compared to the previous year. By 2023 gas consumption is projected to fall by at least 15%⁵⁵.

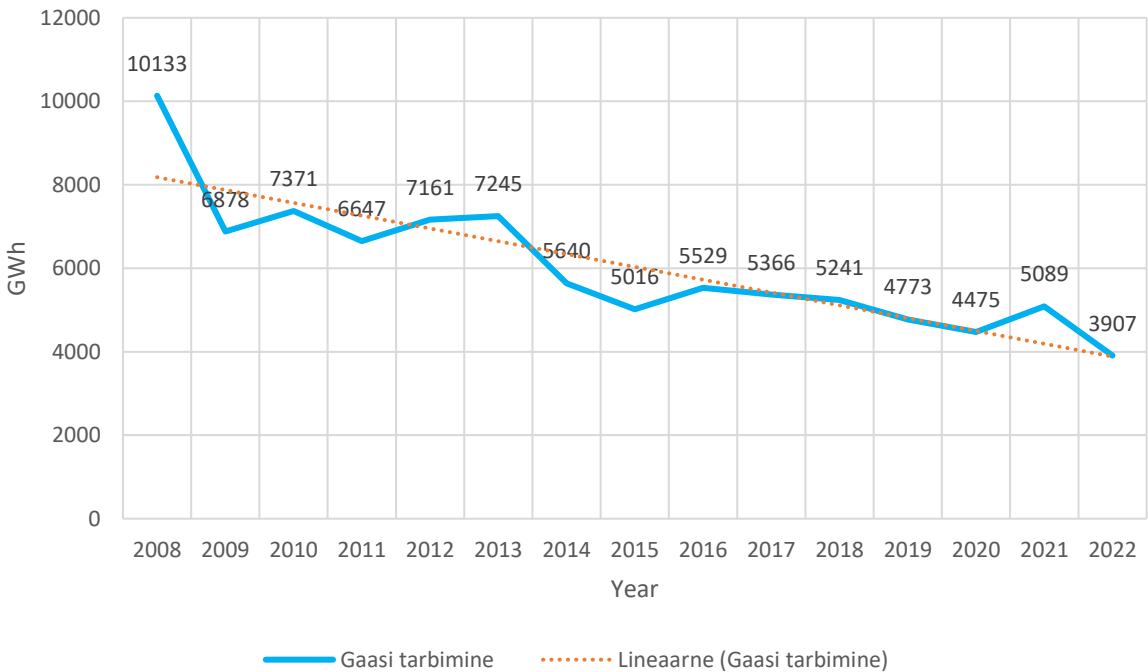


Figure 14. Consumption of gas in Estonia, GWh (*Statistics Estonia, Elering AS*)

In the common balance zone of Estonia and Latvia, 69 wholesale undertakings are registered as of 2022, 12 of these market participants have entered into a contract with Elering AS (Estonia) and 57 market participants with the Conexus Baltic Grid (Latvia). Pursuant to the rules of the common balancing zone, a market participant may enter into contract with one of the system operators of the common zone and operate in both areas.

As has been the case previously, Eesti Gaas AS, whose share of the total supply volume in 2022 was 60.38%, is still the undertaking with the biggest supply volume on the wholesale gas market in Estonia (Table 25). In terms of competition, the market situation has deteriorated in the last year, with the share

⁵⁵ [COUNCIL REGULATION \(EU\) 2023/706 of 30 March 2023 amending Regulation \(EU\) 2022/1369 with regard to the extension of the period for demand reduction measures to reduce gas demand and strengthening the reporting and monitoring of the implementation of these measures.](#)

of the largest supplier increasing by 8.24% over the last year, although it is possible that the situation will improve slightly next year, with three new suppliers joining the market in 2022.

The competition situation in the Estonian wholesale gas market is characterised by the share of balance providers in the supply volumes, which is presented in Table 27. The share of balance providers in 2022 is reflected in Figure 15. The table reflects the share of the three biggest market participants, as the share of others in the Estonian market is either marginal or non-existent.

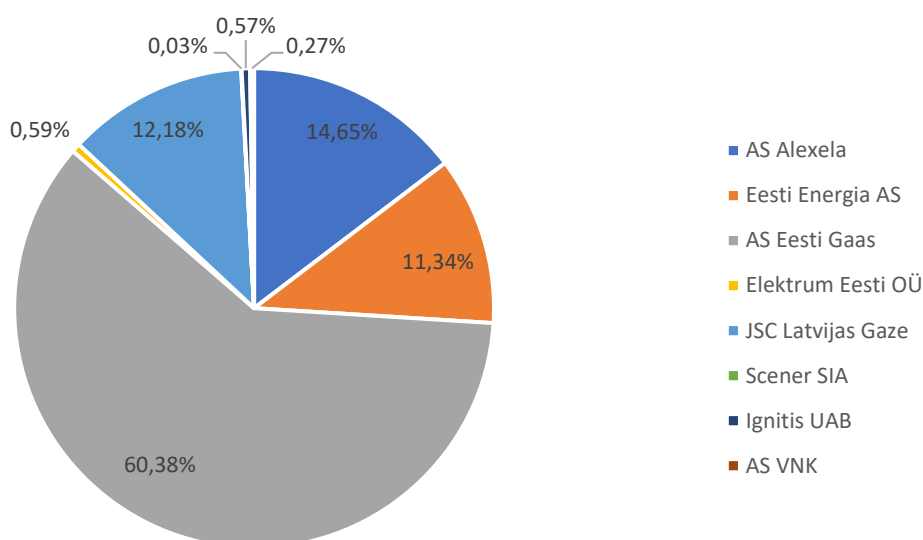


Figure 15. Share (%) of balance providers in 2022 (based on inquiry by Elering AS and the Competition Authority)

Table 24. Annual share (%) of balance providers in volume of supply (based on inquiry by Elering AS and the Competition Authority)

Balance provider	2017	2018	2019	2020	2021	2022
AS Alexela	2.30	4.83	6.88	9.04	11.65	14.65
Eesti Energia AS	17.53	13	12.45	18.40	17.07	11.34
AS Eesti Gaas	73.58	76.15	61.01	56.85	55.60	60.38
Elektrum Eesti OÜ	0	0	0.08	0.23	1.70	0.59
JSC Latvijas Gaze	0	0	16.98	14.45	13.46	12.18
Scener SIA	6.59	5.98	1.66	0.97	0.50	0.03
Ignitis UAB						0.57
AS VNK						0.27

Table 24 shows that competition in the wholesale market has decreased in the past year. A strengthening of competition in the natural gas market can be expected in the coming years due to the launch of operation of the FINESTLAT market region in 2020 and ever-improving awareness. In addition, the merger of FinEstLat and the Lithuanian gas market is also expected to take place in the future, leading to improved market competition.

The events of 2022 have led to a sharp rise in the price of natural gas. Based on the data of the GET Baltic gas exchange, the average price in 2022 was 130.24 €/MWh. Compared to the average price of 2021, there has been an increase of 106.36%. Within the Estonian legal framework, the Competition Authority cannot influence the import and/or supply price formed on a contractual basis, but can verify

whether the sellers of gas follow the law and sell gas on equal conditions to all consumers and do not abuse their position on the market. According to the inquiry made by the Competition Authority and based on the data provided by the sellers, the average wholesale price of gas in 2022 was 130.97 €/MWh (ranging from 96.6 to 199.9 €/MWh).

Table 25 represents the most important indicators of the wholesale gas market throughout the last years.

Table 25. Indicators of wholesale market functioning (based on inquiries by Elering AS and the Competition Authority)

Indicators of wholesale gas market	2017	2018	2019	2020	2021	2022
Number of active wholesale traders ¹	6	7	7	8	11	12
Biogas entered in gas network (GWh/year)	0	40	63	84	121	101
Total gas demand (GWh/year)	5,219	5,216	4,773	4,480	5,196	3,777
Import volume (GWh/year)	5,366	5,241	4,828	12,978	11,391	11,514
Export volume (GWh/year)	0	0	0	8,481	6,281	7,728
Number of gas supply origin countries ²	2	2	2	2	2	2
Direct share of Russian gas (%) (import from Värskä point)	98	92	84	66	93.50	3.48
Share of gas delivered from EU Member States % ³	2	8	16	34	6.50	96.52
Wholesale market share of largest supply entities (%)						
Eesti Gaas AS	73.60	76.20	62.00	56.85	55.60	60.38
Baltic Energy Services OÜ/Scener OÜ	6.60	6.00	1.70	0.97	0.50	0.03
Eesti Energia AS	17.50	13.00	12.00	18.40	17.07	11.34
Alexela AS	2.30	4.80	6.90	9.04	11.65	14.65
Elektrum Eesti OÜ	0	0	0.10	0.23	1.70	0.59
JSC Latvijas Gaze	0	0	17.00	14.45	13.46	12.18
Ignitis UAB						0.57
AS VNK						0.27
Number of active traders in the wholesale market ¹	6	7	7	8	11	12
Volume traded on the OTC market (GWh/year)	5,934	6,230	5,240	40,105	12,663	9,956
Volume traded on the Spot market (GWh/year)	0	30	72	2,464	4,325	5,816
Volume traded on the Futures market (GWh/year)	0	0	73	–	–	–
Total tradable volume (GWh/year)	5,934	6,260	5,385	42,569	16,988	15,772
Average import price of gas (€/MWh)	16.96	24.43	22.60	13.34	40.45	130.97
Number of protected consumers	50,895	51,310	51,469	51,329	56,409	56,097
Volume sold to protected consumers (GWh/year)	845	988	923	765	2,002	1,198

¹ The number of companies that have signed a contract with Elering AS, a total of 69 in the common balancing zone

² Supply from European Union Member States is treated as a single country of origin

³ EU gas includes all remaining gas that does not come directly from Russia and is procured from the European Union wholesale market or from a European Union supplier. Therefore, gas procured from third countries by other suppliers of the European Union may also fall thereunder. What has been resold on the European market, for example when gas enters Estonia from the Latvian region.

Table 25 shows that the total demand for gas in the Estonian wholesale market has decreased by more than 31% in 2022. Since 2020 the export of natural gas has been added to the wholesale market, and in relation to this, there has been significantly higher import in the last two years. Compared to 2021, the volume of imports has remained essentially unchanged, ie it has increased by 1%. Compared to 2021, the volume of exports has also increased by 21%.

The table shows that the direct share of Russian gas on the Estonian wholesale market (gas that has entered directly from Russia through the Värskä connection point) has decreased to 3.48% in the past year. Whereas in 2021, the share of Russian gas was at 93.50%. At the same time, the given number only reflects the quantities of gas purchased directly from Russia, indirectly the corresponding percentage may be higher in the previous year as well, since the gas that entered Estonia through the Latvian system, which in 2021 and 2022 could also have been largely of Russian origin, and was not included in the calculation.

Since the wholesale gas market in Estonia is closely connected to the Baltics (it could be said that we share a common wholesale market with Latvia), trading has increased and trade with Finland has been added, it is increasingly difficult to measure the share of gas from third countries on the market. For example, it is not possible to count the volumes of gas procured by other European Union suppliers from third countries and resold to Estonian suppliers on the European wholesale market. An alternative source of gas supplies is the Klaipeda LNG terminal in Lithuania, but unfortunately a tariff is still imposed on gas supplies at the Lithuanian–Latvian border, which reduced the competitiveness of Klaipeda LNG on the FINESTLAT market, compared to gas imported from Russia. Together with Finland, the Baltic States have set the goal of expanding the FINESTLAT market area and including Lithuania in the common tariff area, however, negotiations on the rules of the common tariff zone and the principles of cost sharing are still ongoing. The merger would have already taken place in 2023, but due to the geopolitical situation in 2022, which has led to significant changes in the fundamentals of the gas market in the region, the merger has been postponed to 2024⁵⁶.

After the outbreak of the war in Ukraine on 24 February 2022, gas supplies from Russia ceased and the whole region relied more on LNG capacity from Klaipeda. However, the volume of the Klaipeda LNG terminal is not sufficient to cover the entire region's gas supply need even during the upcoming heating period. Therefore, in 2022 the ability to receive liquefied natural gas in the form of an offshore terminal (FSRU) will also be developed into the gas systems of Estonia and Finland.

3.2.2. Retail market

The retail market entails the sale of gas to the final consumer by the supplier. Clause 27 of Article 2 of Directive 2009/73/EC of the European Parliament and of the Council explains that the final consumer is a consumer purchasing natural gas for their own use. The final consumer may be a household consumer (buys natural gas for household purposes) or a non-household consumer (buys natural gas in order to use it outside the household). Accordingly, household consumers and non-household consumers are also examined separately in the report.

In the retail market, a natural gas undertaking, ie the seller of gas, forms the sale price of gas based on the purchase price (from the importer or supplier) and the sales margin.

⁵⁶ [Competition Authority Postponement of the merger of FinEstLat and the Lithuanian gas market](#)

Natural gas price component

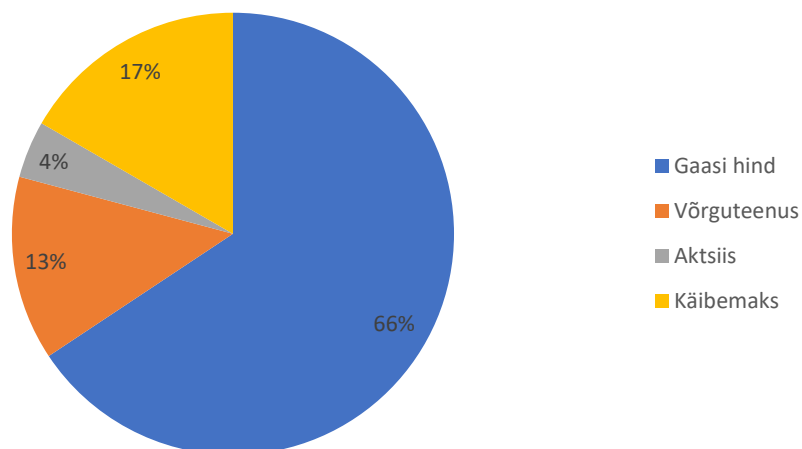


Figure 16. Components of natural gas price for household consumers in 2022

Figure 16 presents components of the natural gas price for household consumers in 2022, when the cost price of natural gas constitutes 66%. In 2020 the share of cost price of gas was 49%. This change in the share of price components over the past year has been driven by the military action of the Russian Federation and Belarus in Ukraine, which led to major restructuring of the natural gas market.

As of 2022 the number of natural gas consumers in the Estonian retail market is 62,194, of which 47,969 are household consumers. In the past year, the number of consumers in the retail market has increased by 0.6%. Compared to the previous year, the number of household consumers has decreased but the number of non-household consumers has increased. The share of household consumers in 2022 has decreased by nearly 0.2% compared to 2021 (Table 27), and the volume of consumption has decreased by 17.5%. The number of non-household consumers has increased by 3.6% (Table 28), but similarly to household consumers, the volume of consumption has decreased – by 27.2%.

According to the Natural Gas Act, household consumers must be notified of changes in the gas price 30 (thirty) days in advance. The retail prices of gas sold to final consumers must be disclosed on the websites of the gas undertakings so that consumers are able to select a suitable gas retailer based on the market prices. Changing gas sellers is simple and does not involve extra costs or disruptions in gas supply. In most cases the new gas supplier will terminate the old contract on behalf of the consumer. The natural gas price comparison portals energiaturg.ee and gaasihind.ee are targeted to consumers; the portals are impartial and give a good overview of the natural gas price packages, where consumers can obtain important information conveniently and from one place. This way there is no need to ask for separate offers from service providers. In 2022, 2,175 customers switched their gas supplier, 1,962 of which were household consumers. Compared to previous years, the change of gas supplier among household consumers has decreased by half (Table 27), probably due to the military actions of the Russian Federation and Belarus in Ukraine, creating an unstable situation in the gas market, leading to a strong increase in gas prices. Tables 27 and 28 reflect the natural gas retail market indicators from 2018 to 2022, for household consumers and non-household consumers, respectively.

From the point of view of the Competition Authority, there is little competition in the Estonian natural gas retail market in 2022. Although the number of active companies providing services in the retail

market has increased compared to the previous year, the share of Eesti Gaas, the largest participant in the market, has increased. The HHI of 4,028 (for household consumers) also shows that this is a very concentrated market. Despite this, the majority of the market prefers the dominant undertaking Eesti Gaas, as the latter has adapted well to the competition and can offer its customers a good price in most cases, which is why consumers are not motivated to switch gas sellers.

Competition on the 2022 retail market is presented in Figure 17, which reflects the volume of gas sold to both household and non-household consumers.

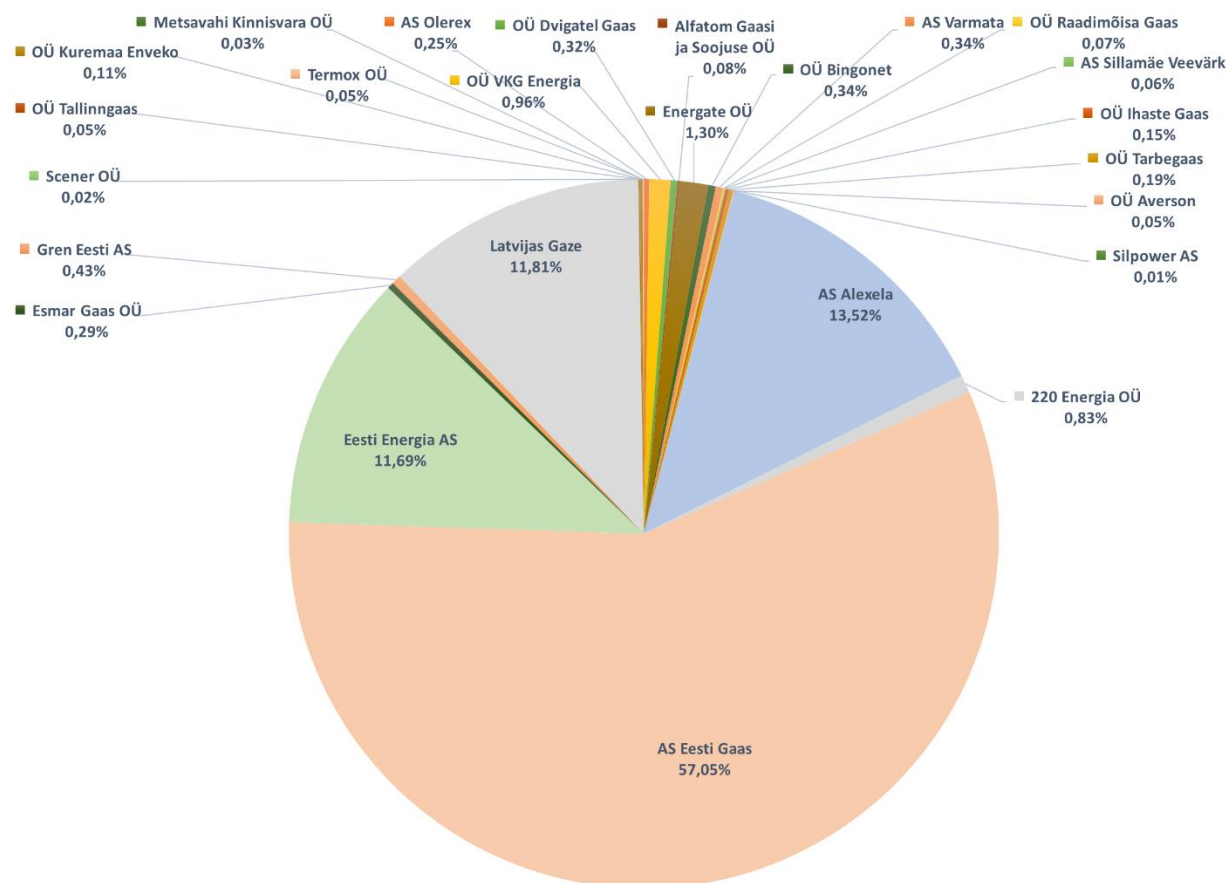


Figure 17. Sale of gas to retail market in 2022

Table 26. Indicators of the household consumers retail market (based on an inquiry by the Competition Authority)

Retail market indicators	2018	2019	2020	2021	2022
Gas consumption (GWh/year)	731	732	407	467,8	392,5
Number of gas consumers	48,296	48,394	44,536	48,079	47,969
Number of registered gas suppliers	40	47	53	55	56
Number of active gas suppliers	30	31	21	21	29
Market share (%) of three biggest suppliers					
Eesti Gaas AS	77.1	74.9	66	62.15	60.84
Eesti Energia AS	3.4	3.4	8	7.94	9.85

Alexela AS	9.9	10.2	12	13.6 8	13.1
Number of retailers with a market share of more than 5%	2	2	3	3	4
Number of retailers with a client share of more than 5%	2	2	3	3	3
Number of seller switches per year (clients who left)	3,36 7	3,49 1	1,83 6	3,62 4	1,96 2
Number of seller switches per year (added clients)	3,02 5	3,36 0	1,80 5	3,65 3	4,29 7
Time period prescribed by law for switch of seller (days)	14	14	14	14	14
Average actual time spent for switching of seller (days) ¹	16	16	14	14	14
Number of gas supply disruptions due to failure to make payments	18	32	30	24	53
Price of gas for average household consumer (9000 kWh/year) including taxes (€/kWh)	0.04 9	0.05 1	0.03 9	0.04 8	0.16 0
HHI for sales			4,45 0	4,15 8	4,02 8
HHI for metering points			6,13 2	5,86 8	5,48 4
Number of protected consumers			42,4 87	46,3 60	47,1 25
Volume sold to protected consumers (GWh/year)			371. 5	435	381. 63

¹ Represents the most frequent value

Table 27. Indicators of non-household retail market (based on an inquiry by the Competition Authority)

Retail market indicators	2018	2019	2020	2021	2022
Gas consumption (GWh/year)	4,485	4,041	4,068	4,621.43	3,514.94
Number of gas consumers	8,188	8,454	12,957	13,724	14,225
Number of registered gas suppliers	40	47	53	55	56
Number of active gas suppliers	30	31	21	21	24
Market share (%) of three biggest suppliers					
Eesti Gaas AS			54	50.72	56.74
Eesti Energia AS			17	13.25	
JSC Latvijas Gaze			16	20.45	13.45
AS Alexela					13.76
Number of retailers with a market share of more than 5%	4	4	4	4	4
Number of retailers with a client share of more than 5%	2	2	3	3	3
Number of seller switches per year (clients who left)	217	223	406	627	213
Number of seller switches per year (added clients)	304	265	920	819	911
Time period prescribed by law for switch of seller (days)	14	14	14	14	14
Average actual time spent for switching of seller (days) ¹	24	24	14	14	14
HHI for sales	6,173	4,328	3,554	3,267	3,685
HHI for metering points	6,148	6,166	6,356	6,091	5,462
Number of protected consumers			8,842	10,049 ²	8,972
Volume sold to protected consumers (GWh/year)			393.8	1,566.56	815.87

¹ Represents the most frequent value

² The sudden increase of protected consumers in 2021 is due to the fact that the distribution network operators started to organise the data of protected consumers, so it turned out that there are more protected consumers than previously expected.

Table 28 compares the average price of the final consumer of gas in 2021 and 2022, according to the data provided by Statistics Estonia. The prices in the table do not include VAT. In the last year the average

price for the final consumer of gas has increased almost two or threefold for both household and non-household consumers.

Table 28. Comparison of average gas prices for final consumers (*Statistics Estonia*)

Consumer group	2019 price, €/MWh	2020 price, €/MWh	2021 price, €/MWh	2022 price, €/MWh	Price change compared to previous year %
Household consumer, annual consumption < 20 GJ	43.35	41.08	47.95	93.92	96
Household consumer, annual consumption 20–200 GJ	37.67	35.51	49.43	91.46	85
Household consumer, annual consumption > 200 GJ	36.31	34.54	44.91	75.82	69
Non-household consumer, annual consumption < 1,000 GJ	36.73	32.49	50.35	145.60	189
Non-household consumer, annual consumption 1,000–10,000 GJ	35.23	29.83	54.50	129.13	137
Non-household consumer, annual consumption 10–100 TJ	33.84	27.05	49.34	117.74	139
Non-household consumer, annual consumption 100–1,000 TJ	31.63	23.09	40.97	109.82	168
Non-household consumer, annual consumption 1,000–4,000 TJ	29.17	21.89	38.09	... ¹	...

¹ This data has not yet been published by Statistics Estonia.

3.4. Security of natural gas supply

3.4.1. General indicators of supply security

The Competition Authority asked the system operator Elering for an assessment of a scenario where the Russian gas supply is completely cut off and the Baltic states and Finland depend only on the supply of the Incukalns gas storage and the Klaipeda terminal. According to Elering, in such a case it was likely that there would be deficits in the gas supply of the countries. In such a situation, a scenario must be launched to limit gas consumption and to ensure the gas supply of protected consumers defined on the basis of subsection 2 of §261 of the Natural Gas Act.

At the beginning of March 2022 the Competition Authority held a meeting with the heads of the energy market regulatory authorities of Latvia, Lithuania and Finland, where solidarity between the countries was emphasised in the coordination of gas supply and the need to turn to national governments to coordinate measures used in a crisis situation. In addition, a meeting of the gas market crisis committee was held in March, during which the operation of the gas system in conditions of deficit and short-term measures to limit gas consumption were introduced.

In April 2022 the Government of the Republic of Estonia made a decision on principle that Estonia will stop importing Russian gas this year. In order to implement the decision, it was necessary to create the capability to receive liquefied natural gas in Paldiski by the fall of 2022 and obtain a national gas reserve of 1 TWh for the Latvian gas storage.

Due to the difficult situation in the gas market, on 17 May 2022, the Ministry of Economic Affairs and Communications, similarly to Finland and Latvia, declared an early warning level for gas supply, which provides additional opportunities for securing gas supplies in a crisis situation according to European Union regulations.⁵⁷

In July 2022 the European Commission proposed new legal instruments and a European Gas Demand Reduction Plan to reduce gas demand by 15% from 1 August 2022 to 31 March 2023.

In October 2022 Floating Lng Terminal Finland Oy submitted to the Competition Authority for approval a package of standard terms and conditions for the use of a liquefied gas terminal, comprising Terminal Rules, Terminal Service Contract, Joint Terminal Use Rules and Joint Terminal Use Contract, General Terms and Conditions and Annexes. The reason for the approval of the standard terms and conditions of the LNG terminal is the creation of receipt capability of the liquefied gas terminal to be built in Estonia and Finland. The Competition Authority and the Finnish Energy Authority started cooperation in order to specify and check the standard terms and conditions submitted for approval. From mid-October to mid-November, the authorities conducted a joint consultation on the standard conditions of the contract for the use of the LNG terminal and approved the standard conditions of LNG. The approval of LNG standard conditions was a prerequisite for the Inkoo terminal to start selling LNG to market participants.

By the end of October 2022 European gas storages were 94% full, and the existing LNG terminals and transnational pipelines were no longer sufficient to unload and transport gas. A situation arose where ships were used as floating storage facilities. The oversupply of LNG on the gas market led to a sharp drop in the exchange price of natural gas, which fell below 100 €/MWh for the first time in a long time.

In the last week of December 2022 the LNG ship *Exemplar*, which can hold up to 68,000 tons of liquefied natural gas, arrived at the Finnish port of Inkoo. Gasgrid Finland signed a ten-year lease agreement for the *Exemplar*. LNG is transported from the Inkoo terminal to Estonia through Balticconnector, a gas pipeline between Estonia and Finland. In order to assess the security of supply it is important to know what the share of natural gas in the country's energy balance is (in final consumption). Figure 18 reflects Estonia's energy balance in 2021 according to the most recent data available from Statistics Estonia. The share (%) of natural gas in the energy balance throughout the years is given in Figure 19. Based on the given data, the share of natural gas in the 2021 total energy balance was 9.3%. The yearly breakdown shows that the share of natural gas has stayed largely the same, within the range of 8% to 9%.

⁵⁷ Press release available at: <https://mkm.ee/uudised/riik-tostab-valmisolekut-gaasitarnete-kindlustamiseks>

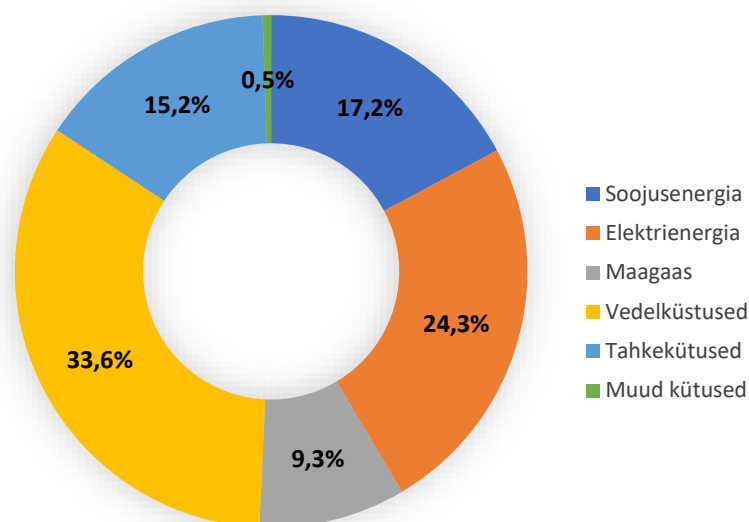


Figure 18. Energy balance of 2021⁵⁸ (*Statistics Estonia*)

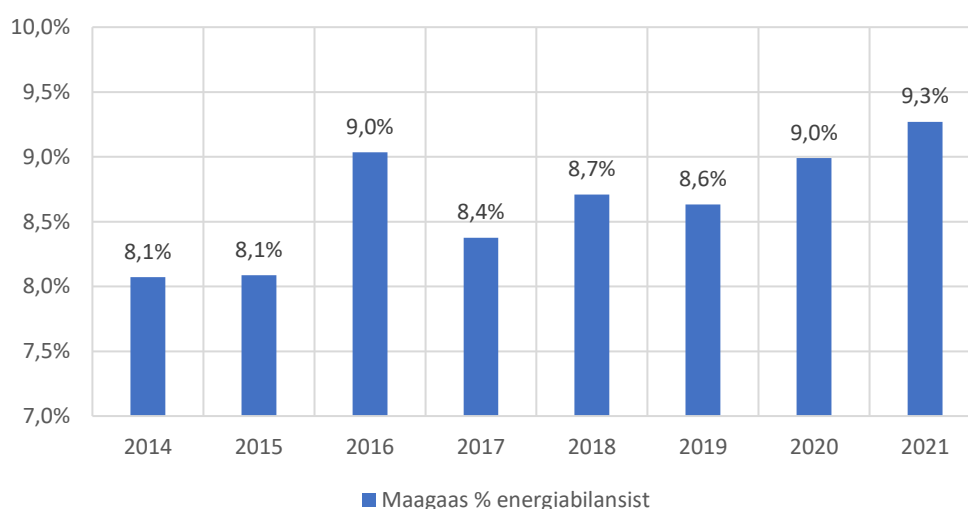


Figure 19. Share of natural gas in energy balance (*Statistics Estonia*)

From the point of view of security of supply, there is no shortage of technical capacity when importing gas in Estonia, and the gas network ensures the necessary transmission capacity even in the case of higher demand. The maximum technical capacity of the Estonian gas transmission network in 2022 was 186.2 GWh per 24h⁵⁹. The maximum daily technical capacities of cross-border connection points in 2022 were as follows.

- Karksi connection with Latvia 105 GWh;
- Värskä connection with Russia 42 GWh (in 2022 gas supplies from Russia have ended);
- Balticconnector connection with Finland 81.2 GWh.

⁵⁸Statistics Estonia publishes the 2022 data in the second half of 2023.

⁵⁹ The technical transmission capacity of 182.3 GWh considers Karksi, Värskä and Balticconnector transmission capacity. The technical capacities of the Narva connection point (out of commercial use) and the virtual Luhamaa point (transit) have not been taken into account (see clause 3.1.1).

Figure 20 reflects the maximum daily consumption of gas by year. In 2022 the maximum daily peak capacity was 32.79 GWh/24h, which was 24.9% lower than in 2021. Over the years, an decrease in daily peak capacity can be noticed. Until now, there have been no problems with the supply of natural gas in Estonia due to the technical capacity.

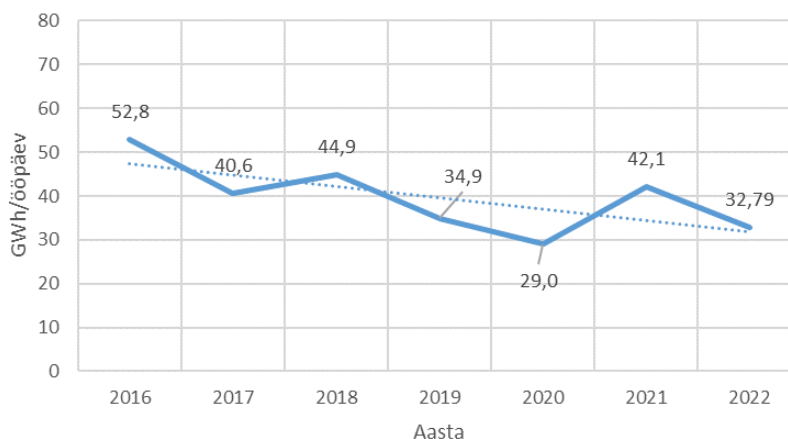


Figure 20. Maximum daily consumption of natural gas, GWh/24h (*Elering AS*)

As of 1 July 2021, Estonian Stockpiling Agency (EVK) started its work, which began to manage the stockpiling and storage of vital goods needed for emergencies and to take care of organising their deployment.

The strategic gas reserve held by the EVK is intended to be deployed as a support measure to mitigate supply shortages when market participants are unable to procure gas through the normal supply chains and commercial supplies are depleting. The precise procedure for the use of strategic gas reserves is laid down by a regulation of the Minister of Economic Affairs and Infrastructure. The decision to implement strategic gas reserves is taken by the Government of the Republic or the Minister of Economic Affairs and Infrastructure.

In addition to the national strategic gas reserve set up by the EVK, the Estonian gas market system operator AS Elering has a reserve to provide gas to protected groups of consumers (households and gas powered district heating boilers). The gas reserve held by Elering will be drawn on once the commercial gas reserves of the companies and the state's strategic gas reserve held by the EVK have been exhausted. The decision on the deployment of the protected consumer reserve is taken by AS Elering and the precise principles are laid down in the Natural Gas Act, pursuant to subsection 1 of §26⁵ of the act.

Pursuant to Regulation (EU) 2022/1032 of the European Parliament and of the Council of 29 June 2022 amending Regulations (EU) 2017/1938 and (EC) No 715/2009 as regards the storage of gas (hereafter Regulation 2022/1032)⁶⁰, Member States which do not have the necessary gas storage facilities on their territory commit to store at least 15% of their annual gas consumption in terminals located in other Member States.

Estonia's strategic gas reserve is designed to ensure the primary security of gas supply in the event of major supply disruptions.

⁶⁰ [Regulation 2022/1032](#)

The basis for the establishment of the Estonian strategic natural gas reserve is the order of the Government of the Republic to acquire a quantity of gas corresponding to approximately 20% of Estonia's average annual gas consumption or to cover one month's consumption during a heating period. Thus, the Estonian government has set a more ambitious target for the volume of strategic gas reserves than is set in the requirements of the European Commission.

The strategic gas reserve of EVK of 1 TWh corresponds to 28% of the forecast demand for the new annual consumption period.

EVK stores the strategic natural gas reserves in Latvia at the Inčulkansi underground storage facility.

Pursuant to subsection 1 of §26⁴ of the Natural Gas Act, a gas reserve (hereinafter reserve) is the quantity of gas that must be continuously stored for each calendar month as a quantity that ensures the supply of gas to a protected consumer in accordance with Regulation 2017/1938.

Pursuant to subsection 1 of §26⁵ of the Natural Gas Act, in the event of a supply disruption, the reserve will be used to ensure the security of supply of the protected consumer after the strategic gas reserve has been exhausted. When commissioning a storage facility, the system operator will not be subject to the requirements of the Natural Gas Act for gas sales and gas vendors.

3.4.2. Risk assessment

The basis for Estonia's national risk assessment is provided by Regulation (EU) 2017/1938 of the European Parliament and of the Council concerning measures to safeguard the security of gas supply.

Pursuant to clause 22 of subsection 3 of § 37 of the Natural Gas Act, the Competition Authority performs the duties imposed on the competent authority mentioned in Regulation (EU) No 2017/1938 of the European Parliament and of the Council, but in regard to the regional risk assessment⁶¹, the competent authority in Estonia is the Ministry of Economic Affairs and Communications which ensures application of the measures provided for by Regulation (EU) 2017/1938.

Regulation (EU) 2017/1938 sets out that risk analyses are to be conducted at Member State, regional and Union level, with the results of the assessment at the Union level having to be taken into account on the regional level and the regional assessment results at the Member State level. According to Regulation (EU) 2017/1938, Estonia belongs to the risk group of the Belarus region (Belgium, the Czech Republic, Germany, Estonia, Latvia, Lithuania, Luxembourg, the Netherlands, Poland, Slovakia) and the risk group of the North–Eastern region (the Czech Republic, Germany, the Netherlands, Estonia, Latvia, Lithuania, Finland, Poland, Slovakia, Sweden).

In November 2017 ENTSOG (European Network of Transmission System Operators for Gas) conducted Union-wide simulation of gas supply and infrastructure disruption scenarios for the first time. The simulation included the identification and assessment of emergency gas supply corridors. The Union-wide simulation of gas supply and infrastructure disruption scenarios are organised every four years (unless circumstances warrant more frequent updates).

[Regional Risk Assessment of Security of Supply of Finland, Estonia, Latvia, Lithuania \(2018\)](#)

In 2022 a new report on the Risk Assessment of Belarus and the North–Eastern Region (Common Risk Assessment of the Eastern Gas Supply Risk Group – Belarus, North–Eastern), prepared by the Joint Research Centre of the European Commission, was completed.

Considering the exceptional circumstances resulting from the ongoing energy crisis and the gradual reduction of gas flows from Russia, it is agreed that the joint risk assessment will aim to focus on addressing a common threat. This high-impact and high-probability risk scenario is the long-term disruption of Russian gas flows from October 2023 until an indefinite date. Therefore, the remaining risks are negligible compared to this risk and the risk assessment focuses mainly on a thorough analysis of this disruption scenario.

The report explored different scenarios in order to obtain the most realistic results possible, which would allow for the most realistic Member State actions and gas demand reduction projects. Long and short-term gas storage and management strategies were investigated using both cooperative and non-cooperative methods. The report shows that in Estonia, even a 5% reduction in gas consumption during winter is enough to fully mitigate gas disruptions, even when gas storage facilities are used throughout the winter. However, if long-term security of gas supply were a priority, a demand reduction of up to 20% would be necessary. It should be stressed that by maintaining gas demand reduction measures throughout 2023, we will be in a position to meet the gas reserve commitment by 1 November 2023, even if other risk events were to occur.

Considering that the total gas demand on the Estonian wholesale market has decreased by more than 31% in 2022, the volume of gas consumed by household and non-household consumers on the retail market has decreased by 17.5% and 27.2% respectively, and looking at the results of the first half of 2023, we can be fairly confident that by 1 November 2023 we will be able to build up the necessary gas reserves.

Pursuant to Article 11 of Regulation (EU) 2017/1938, there are three crisis levels prescribed for a gas system. In addition to the early warning level that Estonia is in as of June 2022, which is also the mildest crisis level, there is also an alert level and an emergency level.

Activities in the case of different crisis levels are regulated by the Estonian Gas System's Emergency Plan [Eesti gaasisüsteemi hädaolukorra lahendamise kava tarnehäiregatoimetulekuks]⁶².

Pursuant to Regulation (EU) 2017/1938 of the European Parliament and of the Council concerning measures to safeguard the security of gas supply, the technical infrastructure standard for gas must also be assessed nationally. Pursuant to Article 5 'Infrastructure standard' of Regulation (EU) 2017/1938, each Member State will ensure that the necessary measures are taken so that in the event of a disruption of the single largest gas infrastructure, the technical capacity of the remaining infrastructure is able to satisfy total gas demand of the calculated area during a day of exceptionally high gas demand occurring with a statistical probability of once in 20 (twenty) years. This will be done taking into account gas consumption trends, the long-term impact of energy efficiency measures and the utilisation rates of existing infrastructure. The adequacy of the technical capacity of the infrastructure is calculated on the basis of the formula N-1 as provided in the Regulation (EU) 2017/1938.

$$N - 1 = \frac{EP_m + P_m + S_m + LNG_m - I_m}{D_{max}} \times 100 \%, \quad N - 1 \geq 100\%$$

EP_m technical capacity of system entry points (M m³/day)

P_m the sum of the maximal technical daily production capacity (M m³/day)

[Emergency plan for the Estonian gas system to deal with supply disruptions](#)

- S_m the sum of the maximal technical daily withdrawal capacity of gas storage facilities (M m³/day)
 LNG_m the maximal technical daily withdrawal capacity of LNG facilities (M m³/day)
 I_m capacity of the single largest network element (M m³/day)
 D_{max} total daily gas demand of the calculated area during a day of exceptionally high gas demand occurring with a statistical probability of once in 20 (twenty) years (M m³/day)

The N-1 criterion, expressed as percentage will be equal or higher than 100%. In such a case, the infrastructure corresponds to the requirements of the supply security for consumers. The Estonian gas system's N-1 parameters for 2022 are given in Table 29. The sum of the technical capacities of the entry points corresponds to the maximal technical transmission capacity of the border points. A demand of 70.4 GWh/24h, which happened in January 2006, has been taken as the maximum demand for natural gas in the last 20 (twenty) years.

Table 29. N-1 data of the Estonian gas system

Parameter	2022	Forecast 2023	Technical 2022
	M m ³ /day	M m ³ /day	M m ³ /day
E_{pm}	12.4	12.4	17.7
Narva	0	0	0
Karksi	7.0	7.0	10.0
Värskä	0	0	0
Balticconnector	5.4	5.4	7.7
P_m	0	0	0
S_m	0	0	0
LNG_m	0	0	0
I_m	7.0	7.0	10.0
D_{max}	6.7	6.7	6.7
N-1	80.6	80.6	114.9

According to the data presented in Table 29, the N-1 criterion for the Estonian gas system was fulfilled by 114.9%. According to the estimates, the infrastructure standard may even improve a little by the end of 2023, when Balticconnector will attain its maximal technical capacity, although it should be noted that after the start of the war in Ukraine on 24 February 2022, gas supplies from Russia through Värskä have ended. Therefore, on the basis of this information we can say that since the predicted 2022 N-1 criterion is below 100%, the infrastructure of the Estonian gas system does not meet the requirements of security of supply for consumers. However, attention should be paid to the fact that the infrastructure standard N-1 is related to the technical transmission capacities, but does not consider the actual gas supply possibilities (for example, pressure limitations, availability of gas, seasonality etc). On 1 December 2022 the gas pipeline connection built by Elering in Paldiski was completed. The gas pipeline connection in Paldiski to accommodate the offshore terminal is one of three measures, alongside the reduction of consumption and the increase of gas stocks, to ensure gas supply to the consumers in the region. The pipeline connection was completed in accordance with the agreement between the Estonian and Finnish ministries and the owner's expectation for Elering to build a gas connection in Paldiski to make it possible to receive the offshore gas terminal leased by FSRU OY.⁶³

⁶³ [Elering's gas pipeline connection in Paldiski completed](#)

4. Consumer protection and dispute settlement in the electricity and gas sectors

Consumer protection and dispute settlement in the electricity sector

The Competition Authority is of the opinion that electricity consumers are well protected and the obligations of market participants are precisely set out. Consumers have sufficient information on the standard terms and conditions of contracts as well as on the rights to change the seller. The Competition Authority also has adequate opportunities to exercise market supervision.

4.1. Consumer contracts

In the assessment of the Competition Authority the field of consumer contracts is well-regulated and consumer interests are adequately protected. Pursuant to the Electricity Market Act, approval of the standard terms and conditions for network contracts, connection contracts, and universal service are to be obtained from the Competition Authority. Upon approval of the standard terms and conditions, the authority follows the proportionality of the contract conditions, the goal of which is to balance the rights and obligations of both the operator and the consumer. An important criterion in the approval of standard terms and conditions is also their compliance with the Law of Obligations Act.

A more detailed description of the requirements of contracts concluded with consumers (network contract and electricity contract) can be found in previous years' reports, as they have not changed (<https://www.konkurentsiamet.ee/et/ametist-kontaktid/aruanded>).

Consumer information

Network operators are obliged to maintain a website and publish the following information there:

- principles of the calculation of connection charges;
- data reflecting the efficiency, quality and profitability of network activities;
- charges for network services;
- standard terms and conditions of network service;
- standard terms and conditions of universal service.

The network charges must be disclosed at least 90 (ninety) days prior to their entry into force. In addition to the website, the charges must also be published in at least one national daily newspaper. The standard terms for network services and sale of electricity must be disclosed at least 30 (thirty) days prior to their entry into force.

All sellers of electricity are obliged to provide the consumer with an invoice for electricity once a month, unless agreed otherwise. The invoice will be accompanied by the following information:

- the share of electricity purchased from the power exchange in the accounting year preceding the sales period;

- a reference to a website providing information on the environmental impact of CO₂ and SO₂ emissions, shale ash and radioactive waste from the production of electricity supplied by the seller in the accounting year preceding the sales period;
- information on consumer rights and dispute settlements;
- as of 1 April, the share of the electricity supplied in the preceding calendar year, the origin of which can be certified;
- the share of the electricity supplied that is not supported by certificates of origin, using mixed residuals published by the transmission network operator;
- With the amendment to the Electricity Market Act, which entered into force on 25 March 2022, the seller must inform the consumer of all available comparison tools with a trust mark on the electricity sales bill.

Where a customer decides to change the seller, the seller presents its final invoice to the customer within 6 (six) weeks following termination of the contract for the sale of electricity. If, after the final invoice has been presented, a fault of the metering system is discovered or the data that have been filed differ from those of actual consumption, the customer's metering data are rectified on the data exchange platform and the seller presents an invoice to rectify the final invoice. No additional fee must be charged for the presentation of the invoice.

Ensuring access to consumer data

Access to the consumer data is ensured through a digital environment – the data exchange platform (Data Hub), developed by the system operator Elering AS. Via Data Hub, information exchange on the electricity market takes place in order to change the open supplier, transmit metering data, and fulfil the legal obligations imposed on the market participants (consumer, network operator, seller) and ensure their rights.

All contracts related to electricity sales and network services as well as electricity consumption measurement data are gathered in Data Hub.

Definition of unprotected consumers and interruption of electricity supply

Interruption of electricity supply is regulated in detail by law. In the assessment of the Competition Authority, the protection of socially vulnerable consumers is sufficiently well ensured in the event of a possible deterioration of paying capacity. The network operator may interrupt the consumer's network connection if the consumer has failed to pay the amount payable for the network service, universal service, or supply of electricity provided to the consumer, or if the consumer has otherwise materially violated an obligation arising from the network contract. Before interrupting the network connection, the network operator must comply with the legal requirements. For more details on the possibilities of disconnection, see previous reports [at https://www.konkurentsiamet.ee/et/ametist-kontaktid/aruanded](https://www.konkurentsiamet.ee/et/ametist-kontaktid/aruanded).

Regulation of universal service

Universal service is intended for household consumers, apartment associations, communities of apartment owners and such commercial consumers (small consumers) whose electrical installation is connected to the network by using low voltage and through a main fuse rating of up to 63 A, if they do not choose any electricity seller for themselves. Universal service must ensure for consumers a price corresponding to the market price and prevent the earning of unreasonably high profit.

Universal service is the selling of electricity to household or small consumers by the network operator or by the seller designated by them on the basis of the standard terms and conditions for universal

service approved by the Competition Authority. The price for universal service is formed according to the market or power exchange price, to which justified cost and reasonable profit may be added by the seller.

According to the amendment to the Electricity Market Act, which entered into force on 23 September 2022, the universal service provider calculates the price of electricity sold to the universal service consumer under the universal service in a calendar month by adding the reasonable costs of providing the universal service and a reasonable commercial profit to the production price for that month. The universal service provider publishes the price of the universal service on its website.

The Competition Authority is obliged to verify justification of the price for universal service. The seller is obliged to publish by the ninth day of each following month the basis for the formation of the price of the universal service, together with the corresponding calculation process.

In 2022 the number of universal service consumers had fallen slightly to 17% of all consumers.

Universal service regulation

The amendment to the Electricity Market Act, which entered into force on 23 September 2022, introduced the regulation of universal service as an optional measure by the state, which helps electricity consumers to hedge risks and mitigate electricity price increases. The universal service is made possible by the so-called electricity market reform, whereby the state obliged Eesti Energia AS to sell electricity as a universal service to Estonian household consumers, some business consumers, local authorities and all electricity resellers from autumn. Other sellers of electricity can also offer universal service to their customers and they will be entitled to buy the electricity they need from the national electricity producer.

The universal service is an option created by the state to buy electricity at off-exchange prices for the next 4 (four) years. The price is determined off the stock exchange on the basis of the production price agreed with the Competition Authority, plus the seller's cost component.

Smart metering systems

The Grid Code lays down requirements for metering devices and provides that from 1 January 2017 all consumers must have remote reading devices (including households). The Grid Code also prescribes that from 1 January 2013 a remote reading device must enable at least once every 24 (twenty-four) hours the possibility to forward to the network operator through the data communication network the measurement data registered during each trading period and ensure access to said measurement data by a person agreed upon between the market participant and the network operator. Remote reading devices have been installed for 99.8% of household consumers.

Subsection 1 of Article 53 of Regulation (EU) 2017/2195 sets out that the imbalance settlement period will switch over to 15 (fifteen) minutes at the latest by the year 2025. This also causes the transition of the market price calculation from a 1-hour period to a 15-minute period. In the long term, this also means replacing the remote reading devices or adjusting them to a 15-minute time period. Legislative changes to the Network Code on the Functioning of the Electricity System were made in this regard on 12 May 2021 and entered into force on 15 May 2021. It established the requirement that network operators must switch to 15-minute remote reading at all metering points by 1 January 2031 at the latest.

4.2. Numerical indicators of consumer protection

Table 30. Numerical indicators of consumer protection (*inquiry by Elering AS and the Competition Authority*)

Consumer indicators (household consumers of electricity)	2021	2022
Number of household consumers of electricity	647,593	654,362
Number of household consumers using universal service	147,949	126,303
Volume of universal service (MWh/year)	178,139	208,259
Number of actual business days between the submission of invoice and interruption of connection due to failure to pay invoice	40	34
Number of interrupted connections of final household consumers due to failure to pay invoice	2,309	1,711

Dispute resolution in the electricity sector

According to the Electricity Market Act, state supervision of the electricity sector is carried out by the Competition Authority. In performing the duties arising from this act, the Competition Authority is independent and exercises its powers with impartiality.

The Competition Authority has the right to obtain the necessary information from market participants and state and local government authorities, the right to access a market participant’s territory, premises and facilities for the purpose of on-site inspection, to examine documents, other information, and circumstances necessary for supervisory activities, and make extracts, transcripts and copies thereof. The Competition Authority is entitled to inspect the accounts and the pricing applied by the electricity company and to obtain the necessary information on the company's economic activities.

The authority can establish a development obligation for an undertaking through the terms of an activity licence. For example, they have the right to impose an obligation to invest in the electricity network if the undertaking’s performance to date has not secured a stable electricity supply to consumers in accordance with the requirements.

All market participants have the right to refer to the Competition Authority as an extrajudicial body for resolving complaints. A market participant may file a written complaint with the Competition Authority against an act or a failure to act of another market participant which is in conflict with the Electricity Market Act or legislation established on the basis thereof. The authority reviews the complaint and makes a decision within 30 (thirty) days as of the receipt of the complaint. If the Competition Authority requests information necessary for resolving the complaint, the term for resolving the complaint may be extended up to 60 (sixty) days. The authority’s decisions can be challenged in an administrative court within 30 (thirty) days as of receipt of the decision.

In 2022 consumers turned to the Competition Authority on 181 occasions (both complaints and inquiries) to identify deviations from the law in the electricity undertaking's activities or to receive other information related to the electricity market. Consumer enquiries resulted from problems with connecting to the electricity network, and the Competition Authority was contacted in regard to

disconnections for reasons arising from the consumers and invoices. A very high number of inquiries were related to the high electricity prices in the summer of 2022 and high margins for buyers/sellers.

4.3. Natural gas sector

Consumer contracts

In the assessment of the Competition Authority the field of consumer contracts is well-regulated and consumer interests are adequately protected. Pursuant to the Natural Gas Act, the standard terms and conditions for selling gas as well as for the provision of network service to household consumers are to be approved by the Competition Authority. The authority must ensure that the content of the contract corresponds to the balance of rights and obligations of the user of the network service based on which the Competition Authority granted its approval for the price of the network service. An important criterion in the approval of standard terms and conditions is also their compliance with the Law of Obligations Act.

A more detailed description of the requirements of contracts concluded with consumers (network contract and gas sales contract) can be found in previous years' reports, as they have not changed (<https://www.konkurentsiamet.ee/et/ametist-kontaktid/aruanded>).

In addition, the gas sales contract must specify the type of supply.

A contract for the sale of gas to a household consumer may also include provisions of the network service contract for the provision of the network service necessary for the distribution of the gas sold.

The seller must allow the termination of the gas sales contract in connection with the change of seller within 14 (fourteen) days of the consumer's request, provided that the obligations arising from the contract to be terminated have been fulfilled. The new sales contract enters into force at the turn of the calendar month.

According to the Natural Gas Act, the network operator or the seller must notify the consumer at least 30 (thirty) days before changing the terms of the contract, including prices and tariffs. The notice will mention the proposed change, the reason for it, the date on which it will enter into force, and inform the consumer that they have the right to withdraw from the contract if they do not agree to the change.

Consumer information

Both the gas network operators and the sellers of gas are obliged to maintain a website and publish the following information there:

- charges for network services;
- maximum gas prices;
- methodology for the calculation of connection charges;
- standard terms and conditions for contracts.

The network charges will be disclosed at least 90 (ninety) days and the prices for the gas for household consumers at least 30 (thirty) days prior to their entry into force. In addition to the website the prices must also be published in at least one daily national newspaper. Besides the undertakings, the regulatory authority is also obliged to disclose all approved network service prices and charges on its website.

The gas undertaking is obliged to present an invoice for the natural gas consumed by and for the network service provided to the customer at least once a month, unless agreed upon otherwise with the customer. No additional fee must be charged for the presentation of the invoice.

In the case of a change of seller, the seller presents its final invoice to the customer within 6 (six) weeks as of the termination of the contract for the sale of gas.

Ensuring access to consumer data

For efficient functioning of the gas market, to promote competition between sellers and switching of open suppliers, the system operator has developed a digital environment – the data exchange platform (Data Hub). The purpose of Data Hub is to ensure efficient data exchange processes in an open gas market that takes into account the equal treatment principles of market participants. Data Hub compiles data of all the contracts related to the sale of natural gas and network services, as well as the metering data on the consumption of natural gas.

Definition of unprotected consumers and interruption of gas supply

§ 26¹ of the Natural Gas Act sets out that a protected consumer is a household consumer whose consumer installation is connected to a gas distribution network and an undertaking that produces heat for the heating of dwellings and for whom it is not possible to use any fuel other than gas. Protected consumers who are subject to the security of supply standard of Article 8 of Regulation (EC) No 2017/1938.

The Natural Gas Act also regulates that the consecutive duration of an interruption of gas supply caused by failures may not exceed 72 (seventy-two) hours for the customer and the total duration of interruptions per year may not exceed 130 (one hundred thirty) hours. The network operator keeps an account of the duration of interruptions.

Interruption of gas supply has been additionally regulated in the Natural Gas Act, according to which the network operator has the right to interrupt a network connection without giving any advance notice to the consumer if there is danger to the life, health or property of persons or to the environment. The network operator has the right to disconnect the network connection immediately in the following instances:

- for a market participant that uses gas illegally;
- for a market participant without an open supply contract in an emergency situation, except for a consumer referred to in clauses 1–3 of subsection 1 of §61 of the Natural Gas Act;
- for a market participant in breach of a mandatory emergency gas demand reduction measure.

In addition to the circumstances described above, a network operator has the right to interrupt the supply of gas, having given at least a 7 (seven) days' notice, in the following situations:

- the consumer installation adversely affects the supply of gas to another customer or the technical parameters of the network;
- the network operator is prevented from accessing a metering system located on premises owned or occupied by the customer in order to inspect or replace the system or to perform any work which is necessary for operating the consumer installation;
- a contract concluded under the Natural Gas Act or the terms and conditions set out therein have been infringed.

If a household consumer has failed to pay the amount payable according to the contract entered into with the seller, and the household customer uses gas for heating a dwelling used as permanent

residence, the supply of gas may be interrupted during the period from 1 October to 1 May only after 90 (ninety) days have passed after receipt of the relevant notice.

Before the supply of gas is interrupted in the above situations, a network operator is obligated to give the customer or producer reasonable time to cure the defects and to notify the customer of the pending interruption in writing. The notice must set out the reason for the interruption and the time limit for resolving the defect. A network connection and gas supply that have been interrupted for the above reasons are restored after the consumer has paid the justified costs of interruption and reconnection, provided the contract has not been terminated.

Numerical indicators of consumer protection

Table 31. Numerical indicators of Consumer Protection and Technical Regulatory Authority (*inquiry by Elering AS and the Competition Authority*)

Indicators of household consumers of gas	2019	2020	2021	2022
Number of household consumers of gas	48,394	44,536	49,130	47,969
Number of household consumers using universal service	1,567	578	821	1,002
Volume of universal service (GWh/year)	21	2.1	3.95	3.66
Number of actual business days between the submission of invoice and interruption of connection due to failure to pay invoice	98	90	90	75
Number of interrupted connections of final household consumers due to failure to pay invoice	48	30	31	53

Smart metering systems

In 2020 an amendment to the Natural Gas Act entered into force, which introduced a requirement for the network operator to ensure that any metering point through which a quantity of at least 750 cubic metres of gas is consumed from its network in a year is equipped with a metering system which, when measuring the quantity of gas, takes into account the temperature of gas in the metering system, and allows for remote reading of metering data. When gas is consumed at a pressure that exceeds 20 millibar, the metering system, when measuring the gas, must take into account pressure and temperature and allow for remote reading of metering data. Pursuant to the Network Code on the Operation of the Gas Market, a network operator must fulfil the obligation to transition to the remote reading function of metering systems no later than 1 January 2021.

Resolution of disputes in the natural gas sector

The Competition Authority is of the opinion that consumers have sufficient information on the standard terms and conditions of contracts as well as on the rights to change the seller. The Competition Authority also has adequate opportunities to exercise market supervision. The problem in 2022, however, was a sharp price rise, which consumers will find difficult to accept. Fortunately, decisions and measures have been taken by businesses and the government, which should lower and stabilise price increases in 2023.

4.3.1. Consumer contracts

In the assessment of the Competition Authority the field of consumer contracts is well-regulated and consumer interests are adequately protected. Pursuant to the Natural Gas Act, the standard terms and conditions for selling gas as well as for the provision of network service to household consumers are to be approved by the Competition Authority. The authority must ensure that the content of the contract corresponds to the balance of rights and obligations of the user of the network service based on which the Competition Authority granted its approval for the price of the network service. An important criterion in the approval of standard terms and conditions is also their compliance with the Law of Obligations Act.

A more detailed description of the requirements of contracts concluded with consumers (network contract and gas sales contract) can be found in previous years' reports.

4.3.2. Consumer information

Both the gas network operators and the sellers of gas are obliged to maintain a website and publish the following information there:

- charges for network services;
- maximum gas prices;
- methodology for the calculation of connection charges;
- standard terms and conditions for contracts.

The network charges will be disclosed at least 90 (ninety) days and the prices for the gas for household consumers at least 30 (thirty) days prior to their entry into force. In addition to the website the prices must also be published in at least one daily national newspaper. Besides the undertakings, the Competition Authority is also obliged to disclose all approved network service prices and charges on its website.

The gas undertaking is obliged to present an invoice for the natural gas consumed by and for the network service provided to the customer at least once a month, unless agreed upon otherwise with the customer.

No additional fee must be charged for the presentation of the invoice. In the case of a change of seller, the seller presents its final invoice to the customer within 6 (six) weeks as of the termination of the contract for the sale of gas.

4.3.3. Ensuring access to consumer data

For efficient functioning of the gas market, to promote competition between sellers and switching of open suppliers, the system operator has developed a digital environment – the data exchange platform (Data Hub). The purpose of Data Hub is to ensure efficient data exchange processes in an open gas market that takes into account the equal treatment principles of market participants. Data Hub compiles data of all the contracts related to the sale of natural gas and network services, as well as the metering data on the consumption of natural gas.

4.3.4. Definition of protected consumer and interruption of gas supply

§ 26¹ of the Natural Gas Act sets out that a protected consumer is a household consumer whose consumer installation is connected to a gas distribution network and an undertaking that produces heat for the heating of dwellings and for whom it is not possible to use any fuel other than gas. Protected consumers in whose respect the security of supply standard provided for in Article 8 of Regulation (EC) No 2017/1938 of the European Parliament and of the Council applies and who will be guaranteed gas supply even in extreme situations.

The Natural Gas Act also regulates that the consecutive duration of an interruption of gas supply caused by failures may not exceed 72 (seventy-two) hours for the customer and the total duration of interruptions per year may not exceed 130 (one hundred thirty) hours. The network operator keeps an account of the duration of interruptions.

Interruption of gas supply has been additionally regulated in the Natural Gas Act, according to which the network operator has the right to interrupt a network connection without giving any advance notice to the consumer if there is danger to the life, health or property of persons or to the environment. Once it has been established that an illegal use of gas has taken place, the network operator has the right to interrupt the network connection without delay.

In addition to the circumstances described above, a network operator has the right to interrupt the supply of gas, having given at least a 7 (seven) days' notice, in the following situations:

- the consumer installation adversely affects the supply of gas to another customer or the technical parameters of the network;
- the network operator is prevented from accessing a metering system located on premises owned or occupied by the customer in order to inspect or replace the system or to perform any work which is necessary for operating the consumer installation;
- a contract concluded under the Natural Gas Act or the terms and conditions set out therein have been infringed.

If a household customer has failed to pay the amount payable according to the contract entered into with the seller and the household customer uses gas for heating a dwelling used as permanent residence, the supply of gas may be interrupted during the period from 1 October to 30 April only after 90 (ninety) days have passed after receipt of the relevant notice.

Before the supply of gas is interrupted in the above situations, a network operator is obligated to give the customer or producer reasonable time to cure the defects and to notify the customer of the pending interruption in writing. The notice must set out the reason for the interruption and the time limit for resolving the defect. A network connection and gas supply that have been interrupted for the above reasons are restored after the consumer has paid the justified costs of interruption and reconnection, provided the contract has not been terminated.

4.3.5. Numerical indicators of consumer protection

Table 30 presents the numerical indicators of household consumer protection in the last 4 (four) years. Universal service is the statutory (derived from the Natural Gas Act) obligation of the network operator to sell gas to a household consumer in case the consumer has no valid open supply sales contract. In 2022 the number of consumers among household consumers using universal service has increased

considerably by 20% and in volume by 7.5%. One reason for this may be the generally improved awareness among consumers.

Table 32. Numerical indicators of the Consumer Protection and Technical Regulatory Authority (*inquiry by Elering AS and the Competition Authority*)

Indicators of household consumers of gas	2019	2020	2021	2022
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4.3.6 Smart metering systems

In 2020 an amendment to the Natural Gas Act entered into force, which introduced a requirement for the network operator to ensure that any metering point through which a quantity of at least 750 cubic metres of gas is consumed from its network in a year is equipped with a metering system which, when measuring the quantity of gas, takes into account the temperature of gas in the metering system, and allows for remote reading of metering data. When gas is consumed at a pressure that exceeds 20 millibar, the metering system, when measuring the gas, must take into account pressure and temperature and allow for remote reading of metering data. Pursuant to the Network Code on the Operation of the Gas Market, a network operator must fulfil the obligation to transition to the remote reading function of metering systems no later than 1 January 2021.

The remote reading meters give customers the option to see their gas consumption in real time and make their life easier. According to an inquiry made by the Competition Authority, as of December 2022 there were 24,925 metering points with consumption of over 750 m³/year to which the remote reading obligation applied. However, there are still 23,919 remote-readable meters installed by gas undertakings and in operation at the respective metering points, so the statutory requirement has not yet been fulfilled in 4% of the metering points. The main difficulties have been customer refusals for installation, IT and data transmission problems, as well as delivery problems.

4.3.7. Resolution of disputes in the natural gas sector

Pursuant to the Natural Gas Act, state supervision in the natural gas sector is exercised by the Competition Authority. In performing the duties arising from this act, the Competition Authority is independent and exercises its powers with impartiality.

The Competition Authority has the right to obtain the necessary information from market participants and state and local government authorities, the right to access a market participant’s territory, premises and facilities for the purpose of on-site inspection, to examine documents, other information, and

circumstances necessary for supervisory activities, and make extracts, transcripts and copies thereof. The Competition Authority is also entitled to inspect the accounts and price practices applied by gas undertakings and obtain the necessary information concerning their economic activities, and establish temporary prices for the transmission and distribution of gas for no longer than 2 (two) months in situations where those prices are not justified and the gas undertaking fails to follow a precept issued by the authority.

The authority can establish a development obligation for an undertaking through the terms of an activity licence. For example, an obligation to invest in the gas network can be imposed if the undertaking's former performance has not secured a stable gas supply to consumers in accordance with requirements.

All market participants have the right to refer to the Competition Authority as an extrajudicial body for resolving complaints. A market participant may file a written complaint with the authority against an act or a failure to act of another market participant which is in conflict with the Natural Gas Act or legislation established on the basis thereof. The authority reviews the complaint and makes a decision within 30 (thirty) days as of the receipt of the complaint. If the authority requests information necessary for resolving the complaint, the term for resolving the complaint may be extended, but not for longer than 60 (sixty) days. The authority's decisions can be challenged in an administrative court within 30 (thirty) days as of receipt of the decision.

In 2022 the Competition Authority received a total of 31 inquiries related to natural gas, most of which were primarily complaints/inquiries from consumers.