



KONKURENTSIAMET

Analysis of the day-ahead power exchange price of 17 August 2022

Tallinn, 2022

Contents

- Introduction.....3
- 1. Overview of power exchange and price development3
 - 1.1 Day-ahead market and price development6
 - 1.2 Intraday market and price development7
 - 1.3 Nord Pool power exchange order types7
 - 1.4 Balancing market and price development10
- 2 Description of power exchange prices on 17 August 202212
 - 2.1 Reasons that led to an electricity price increase on 17 August 202214
 - 2.1.1 Cross-border transmission capacities on 17 August 2022.....14
 - 2.1.2 Production capacities of the Baltic States on 17 August 202217
 - 2.1.3 Wind power generation22
 - 2.1.4 Hydropower reservoir filling levels23
- 3 Analysis of bids and offers on the power exchange25
- 4 Conclusions and proposals.....28
 - 4.1 Conclusions28
 - 4.2 Proposals28
- Annex 1 – The CACM Regulation and Designation of Nominated Electricity Market Operators.....30
- Annex 2 – REMIT Principles and Data Confidentiality32

Introduction

Electricity prices have risen since July 2021 in both Estonia and elsewhere in Europe. In 2021, the average electricity price on the Nord Pool power exchange¹ in the Estonian price area was €86.73 per MWh, a 157.4% rise on the average price in 2020. As a comparison, the average electricity price on Nord Pool power exchange in the Estonian price area in August 2022 was €361.35 per MWh, an all-time record monthly price of electricity in Estonia. The main factor affecting the price of electricity in the Baltic market has been the dramatic increase in gas prices. In addition, the demand for electricity has grown, CO₂ prices have doubled, and the weather conditions have affected the hydropower reservoir filling levels – all of which, in turn, have affected the price of electricity. The average day-ahead electricity prices on the Nord Pool power exchange from January 2021 are shown in Figure 1.

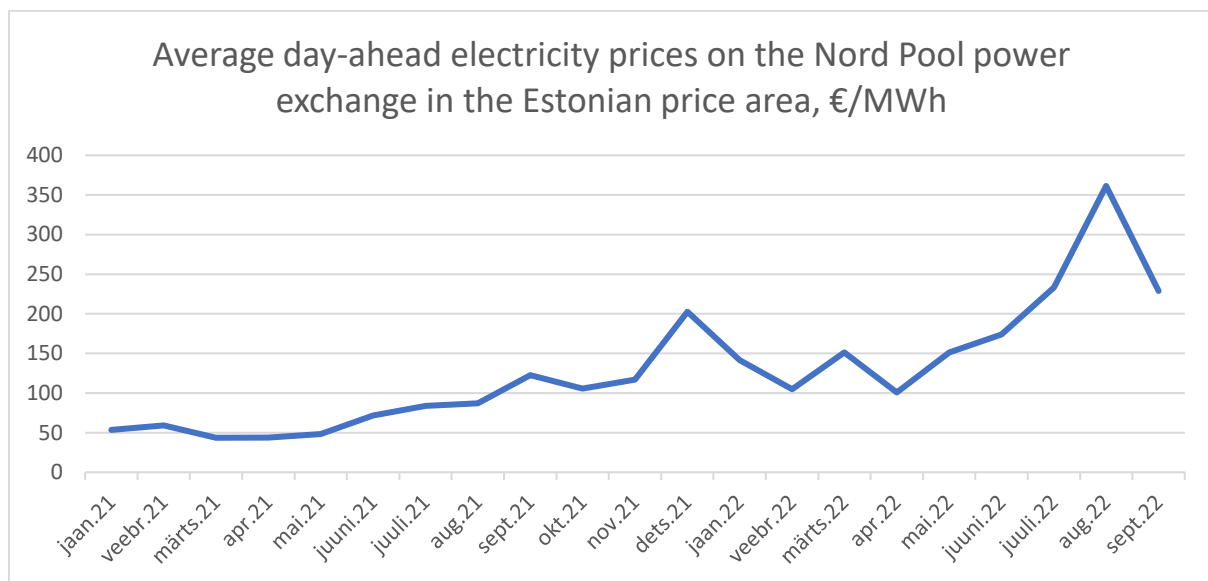


Figure 1. Average day-ahead electricity prices on the Nord Pool power exchange, €/MWh (*Nord Pool*)

On 17 August 2022, the day-ahead price on the Nord Pool power exchange¹ reached 682.05 €/MWh and in a one-hour slot on the same day the maximum price level of 4000 €/MWh was also reached. In order to clarify the circumstances, the Estonian Competition Authority launched an analysis to identify the reasons for the price increase. The Competition Authority hereby sets out these reasons and also presents proposals to avoid such a situation in the future.

1. Overview of power exchange and price development

Power exchange (wholesale market) is an organised market for trade in electricity. The objective of the power exchange is to create competition between producers of electricity, where the price of electricity is the result of supply (producers of electricity) and demand (consumers of electricity).

On 14 August 2015, Regulation (EU) 2015/1222 came into force, establishing a guideline on capacity allocation and congestion management (the CACM Regulation)². Pursuant to Article 4(1) of the CACM Regulation, each Member State electrically connected to a bidding zone in another Member State must ensure that one or more nominated electricity market operators (hereinafter NEMOs) are designated by

¹ Nord Pool power exchange is the designated power exchange operator in Estonia, Latvia, Lithuania, the Nordic countries, and several others.

² The CACM Regulation is available here: <https://eur-lex.europa.eu/legal-content/ET/TXT/PDF/?uri=CELEX:32015R1222&from=EN>

four months after the entry into force of the CACM Regulation to perform the single day-ahead and/or intraday coupling. For that purpose, domestic and non-domestic market operators may be invited to apply to be designated as a NEMO.

Pursuant to Article 4(2) of the CACM Regulation, each Member State concerned must ensure that at least one NEMO is designated in each bidding zone on its territory. NEMOs are designated for an initial term of four years. Except where Article 5(1) applies, Member States must allow applications for designation at least annually (for more information on the rules of the CACM Regulation, see Annex 1).

On 1 November 2018, the process of splitting Nord Pool AS into two legal entities, Nord Pool Holding AS and European Market Coupling Operator AS, was completed, separating the market coupling operator functions from the commercial power exchange functions. Nord Pool Holding AS is a company fully owned by European Market Coupling Operator AS.

In the decision of the Competition Authority of 11 December 2019, European Market Coupling Operator AS was designated as the electricity market operator for an indefinite term, meaning that the power exchange operator is European Market Coupling Operator AS.

Another major power exchange is EPEX³ (EPEX SPOT SE), which is part of the European Energy Exchange (EEX) Group. Pursuant to the approval given by the Competition Authority on 24 July 2017, EPEX is authorised to operate in Estonia as an electricity market operator. As EPEX is already a NEMO in Austria, Belgium, France, Germany, Luxembourg, the Netherlands, and the United Kingdom, then in accordance with the EU Regulation, a NEMO designated in one Member State has the right to offer day-ahead⁴ and intraday⁵ trading services with delivery in another Member State. At the moment, EPEX does not offer trading services to market participants in Estonia.

On the power exchange, large-scale trading takes place on the day-ahead market, while the intraday market is primarily used to specify positions so the trading volumes there are much lower. Market participants also have the possibility to trade on the balancing market which aims at offering system services (e.g. regulation services) to system operators (Elering AS in Estonia). The price calculation model used has a key role to play in the organisation of the electricity market. Currently, the European single market uses the zonal pricing model, according to which the price is calculated on the basis of the price area, also considering the actual transmission capacity differences between zones. Price areas are generally created so as to ensure that there are no trade restrictions within the areas (i.e. no restrictions on transmission capacity, ensuring that electricity flows freely within the price area). Estonia, Latvia, Lithuania, and Finland have all been separated into different price areas by country. However, a country may also be divided into several price areas: for example, Sweden has four different price areas, and Norway five. Price areas are shown in Figure 2. It is possible for transmission capacity deficit to occur between price areas, meaning that electricity does not flow freely between different areas. For instance, a transmission capacity deficit means that if Finland had a capacity surplus of 1500 MW and wanted to transfer it to Estonia, Estonia would not be able to receive all the capacity due to a lack of the necessary transmission capacity (maximum transmission capacity is 1016 MW).

³ A list of European NEMOs is available here: nemo-committee.eu/designated-NEMOs.pdf

⁴ Day-ahead market means the part of the electricity market where electricity for all hours of the following day is traded on the exchange one day ahead of actual delivery.

⁵ Intraday market means the market that market participants (electricity producers and sellers, balance providers) use to specify their positions.

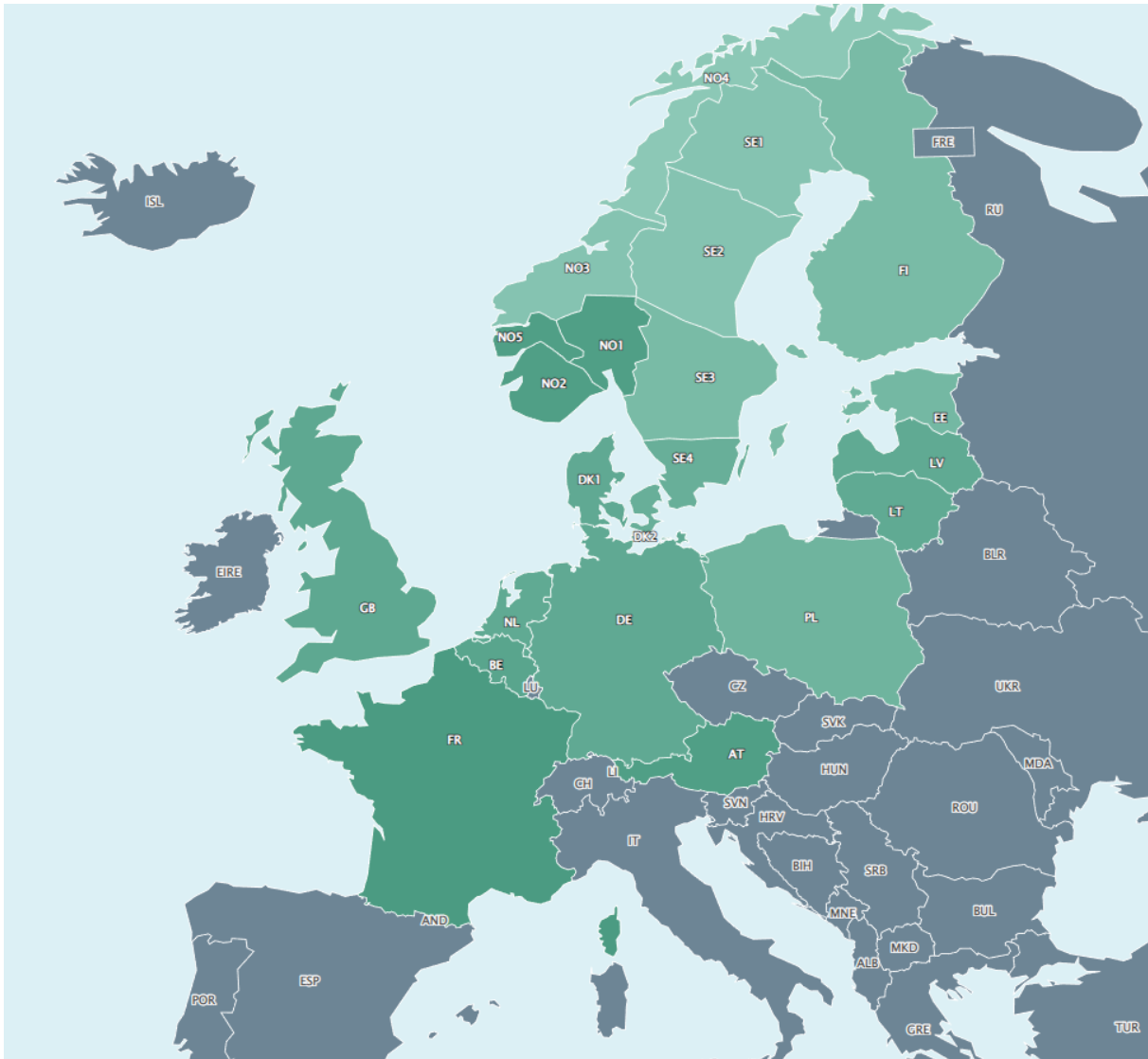


Figure 2. Price areas of power exchange. Nord Pool is the power exchange operator in countries marked with green. (*Nord Pool*)

Estonia and the other Baltic States form a part of the European single electricity market. The European single electricity market means that there are several connections between different price areas and electricity is transferred from an area with lower prices (higher production) to an area with higher prices (higher consumption), in accordance with the connection capacity between different areas. If there were always sufficient connections between price areas, i.e. no connection capacity deficit would occur, the price in Europe would always be the same and Europe would essentially be one price area. At the same time, however, deficits in connection volumes still occur from time to time, increasing prices in price areas where the production deficit is higher and/or generation capacity is more expensive and the share of renewable energy is lower. Prices in different price areas are the result of the intersection of the supply and generation curves, considering electricity export and import. The objective of the harmonisation of price areas is to facilitate an environment where necessary investments on the market are brought to the price areas where the generation capacity deficit is the greatest. To this end, it is important to primarily channel investments into areas with significant deficit, more expensive generation capacities, and higher consumption.

1.1 Day-ahead market and price development

As mentioned before, day-ahead market means the part of the electricity market where electricity for all hours of the following day is traded on the exchange one day ahead of actual delivery. Electricity prices are determined for each separate hour on the basis of the bids and offers made during a specific period, based on the principle of marginal pricing. The day-ahead market price is the most important indicator for consumers. Exchange-priced electricity packages are also based on day-ahead market prices. On the day-ahead market, prices are calculated for the entire European single electricity market, where differences between areas occur when the connection capacities between areas have been maximised. Trading of electricity is organised through power exchanges: power exchanges collect bids and offers from different price areas along with the capacity data of price areas and send them to the Pan-European Hybrid Electricity Market Integration Algorithm (EUPHEMIA). This algorithm sends the results (calculated electricity prices in different price areas and flows between price areas) back to power exchanges that will then forward the trading results (prices and volumes) to the market participants of their area. The principles of European price coupling algorithm have been set out in the methodology⁶. The final price is the result of the intersection of the supply and demand curves, as illustrated in Figure 3.

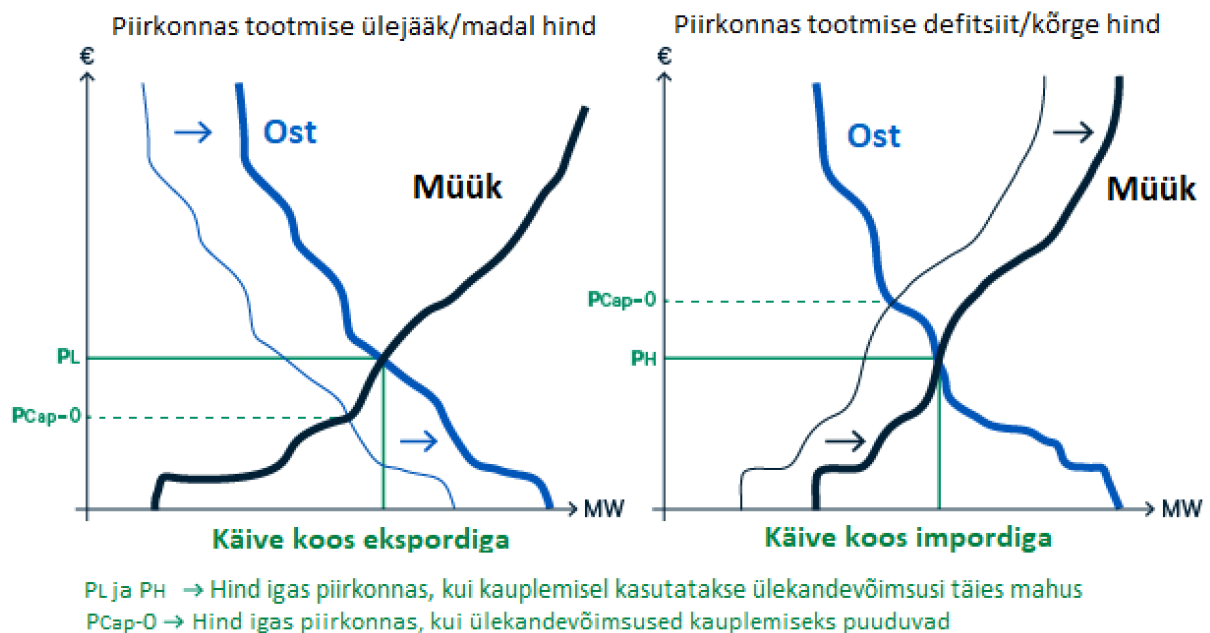


Figure 3. Price development on the basis of the supply and demand curve (Nord Pool)

Factors affecting day-ahead electricity prices include the price of the production capacity offers, demand for electricity or consumption volume, and its bid price. The equilibrium point where both the demand curve and the supply curve intersect represents the market price of electricity. Pursuant to the CACM Regulation⁷, the marginal pricing principle implemented on the day-ahead market provides that production capacity offers are made on the basis of variable costs and the most expensive offer required to serve the demand sets the price for all. Different producers make offers at very different prices as variable costs vary greatly. Depending on demand, offers are put on the market in merit order starting with the least costly up to the most expensive until demand is met. The market price for the corresponding hour is set by the highest accepted offer. Variable renewable energy (e.g. wind and solar power) is often offered at a

⁶ The methodology is available here: <https://www.nemo-committee.eu/publication-detail/in-force-algorithm-methodology>

⁷ The regulation can be found here: <https://eur-lex.europa.eu/legal-content/ET/TXT/PDF/?uri=CELEX:32015R1222&from=EN>

zero or even negative price on the market as there are essentially no variable costs associated with renewable energy, whereas the offers of oil shale, coal, and gas plants are at the top of the sales curve, as illustrated by Figure 4.

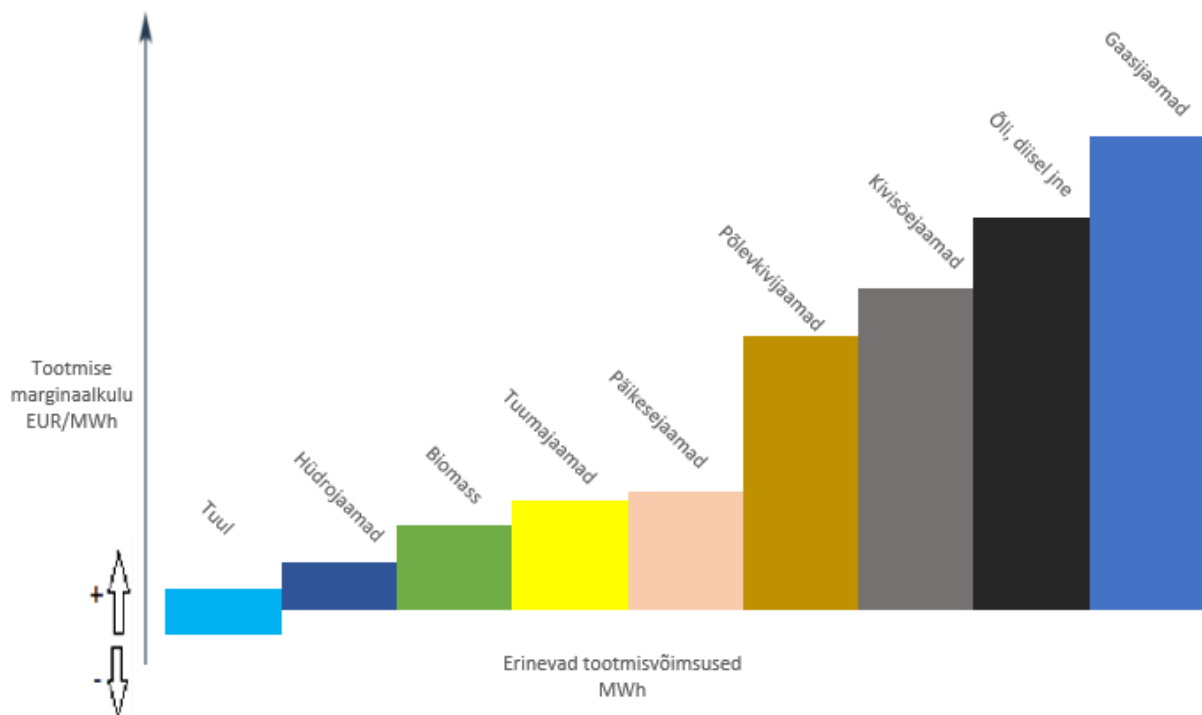


Figure 4. Ranking of power production capacities based on marginal cost

If electricity prices rise significantly on the market, the final price makers may actually be the consumers: for instance, if a large consumer of electricity (e.g. the food industry, timber industry) has concluded a contract with the operator that from a certain price point they will no longer consume electricity or will significantly decrease consumption. In the case of such a contract, the operator makes an offer on the basis of the principle that demand decreases as price increases and not on the principle that everything will be bought no matter the price.

1.2 Intraday market and price development

Intraday market is used by market participants (electricity producers and sellers, balance providers) to specify their positions. For example, when the renewable and variable renewable energy forecast or consumption forecast changes, or to purchase or sell additional quantities on the market with the aim of rectifying a balancing error as each market participant bears the balance responsibility. The main difference between the day-ahead market and the intraday market is the pricing principle. If on the day-ahead market the marginal pricing principle is used, the pay-as-bid principle is used to set the prices in intraday trading. This means that prices are formed as a result of continuous trading based on each transaction that is completed.

1.3 Nord Pool power exchange order types

Trading on the Nord Pool power exchange is based on four different order types: single hourly orders, block orders, exclusive groups, and flexi orders.

The majority of trading on the day-ahead market involves single hourly orders. In the case of such orders, the market participant specifies the purchase and/or sales volume for each hour, choosing between a price dependent and a price independent order. Price independent orders are orders where buy or sell volume is placed at two price steps (possible minimum and possible maximum prices). Market participants use price independent orders if they wish to buy or sell a specific quantity of energy in any event, regardless of the market price. Figure 5 illustrates a price independent order where a market participant wishes to buy 70 MW in all 24 individual hours at any price between -500 and 4,000 euros.

Hind Tund	-500	4 000
01	70	70
02	70	70
03	70	70
:		
24	70	70

Figure 5. Example of a price independent order (*Nord Pool*)

Balance providers and electricity sellers who want to cover consumer demand at all cost, for example, may submit price independent purchase orders. Generation units (e.g. wind power) with very low (negative) marginal cost who want to enter the market at all cost may submit price independent sales orders.

In the case of price dependent orders, market participants can specify the volume of energy to be bought or sold for each hour depending on price. Figure 6 illustrates a price dependent order where a market participant wishes to buy 50 MW in the first hour at any price between -500 and 50 euros. Should the market price exceed 50 euros but remain below 55.1 euros, the market participant does not want to buy or sell power. If the price is between 55.1 and 60 euros, the market participant wants to sell 10 MW, and if the market price exceeds 60.1 euros, the participant wants to sell 30 MW.

Hind Tund	-500	50	50.1	55	55.1	60	60.1	4 000
01	50	50	0	0	-10	-10	-30	-30
02	100	70	0	0	-50	-50	-100	-100
03	150	50	0	0	-10	-10	-30	-30
:	:	:	:	:	:	:	:	:
24	170	100	0	0	-5	-5	-30	-30

Figure 6. Example of a price dependent order (*Nord Pool*)

Fossil fuel power plants, for instance, make use of the price dependent offer strategy as they have an incentive to sell energy from a certain price that exceeds their marginal cost. Plants that consist of several generating blocks with different marginal cost enter the market with the blocks whose marginal cost is lower than the market price. Consequently, the volume offered by the plant may depend on the market price. Nevertheless, under certain conditions, the plant may also enter the market with a price that is lower than their marginal cost: for example, if in the short term the market price is lower than the marginal cost of the plant, it is more cost-effective to decrease the capacity of the generating block and sell lower

volumes of energy at lower prices instead of shutting down the block short-term as the relaunching costs of a block are higher than the loss resulting from energy sold below marginal cost.

A block order consists of a specified volume and price for a certain number of consecutive hours within the same day. For example, if a generating unit offers 200 MW for each hour between 13:00 and 18:00 at a price of 400 €/MWh. Regular block orders have an 'all-or-nothing' condition, meaning they must be fully accepted (for each hour) or fully rejected (no market access at any hour). The price of regular block orders is compared with the average day-ahead price for the hours to which the block order applies.

Sales blocks:

- If the order price of a sales block is lower than the average day-ahead area price during the specified block period, the block is fully accepted, unless it is paradoxically rejected (see explanation below).
- If the order price of a sales block is higher than the average day-ahead area price during the specified block period, the block is fully rejected.
- If the order price of a sales block is exactly equal to the average day-ahead area price during the specified block period, the block can either be fully accepted or fully rejected.

Purchase blocks:

- If the order price of a purchase block is higher than the average day-ahead area price during the specified block period, the block is fully accepted (unless paradoxically rejected).
- If the order price of a purchase block is lower than the average day-ahead area price during the specified block period, the block is fully rejected.
- If the order price of a sales block is exactly equal to the average day-ahead area price during the specified block period, the block can either be fully accepted or fully rejected.

Compared with single hourly orders, block orders are less flexible and primarily used by participants that want to run a power station for a longer period than one hour and thereby minimise costs related to the start and stop of generating blocks.

If the order price of a sales or order block is exactly equal to the average day-ahead area price during the specified block period, the block is fully accepted. In addition, in such a case, if two block orders are identical, but only one can be accepted, selection is random to avoid unequal treatment.^{8,9,10}

Paradoxical rejection occurs, for instance, if upon the acceptance of the sales block, the average day-ahead area price during the specified block period would turn out to be lower than the price specified in the block order, or if upon the rejection of a sales block, the average day-ahead area price during the specified block period would turn out to be higher than the price specified in the block order.

In addition, block orders can also be linked together, i.e. the acceptance of an individual block order can be made dependent on the acceptance/rejection of other block orders. For example, if a certain generating unit has high startup or shutdown costs. In such a case, the producer can price the mother block high to cover the costs of startup and shutdown and then price-related child blocks low. With the condition that

⁸ Nord Pool AS Day-ahead Market Regulations

https://www.nordpoolgroup.com/499347/globalassets/download-center/rules-and-regulations/day-ahead-market-regulations_sdac-11.05.22-.pdf

⁹ Description of EUPHEMIA

<https://www.nordpoolgroup.com/globalassets/download-center/single-day-ahead-coupling/euphemia-public-description.pdf>

¹⁰ Nord Pool AS description of block orders

<https://www.nordpoolgroup.com/en/trading/Day-ahead-trading/Order-types/Block-bid/>

child blocks can only be accepted if the mother block is also accepted as it covers the startup and shutdown costs of the plant.

A user-defined Minimum Acceptance Ratio (MAR) can be incorporated into block orders to reduce block volume. A block with MAR=1 (100%) is a regular all-or-nothing block order, so it can either be fully accepted or fully rejected. A block with MAR=0.5 (50%) may be curtailed up to 50% and a block with MAR=0 (0%) is fully curtailable. MAR is always the same for all hours specified in the block order.

A profile block is a block order where volume can differ over the entire time span of the block (but it is not possible to have both buy and sell volumes in the same block). In the Nordic and Baltic regions, the minimum order duration is three hours. The start and stop time of a profile block order is defined by the user and, additionally, profile block orders can be linked and a MAR can be applied to them. In order to determine the acceptance or rejection of a profile block order, the volume weighted average price over the duration of the order is used and compared with the block volume weighted average day-ahead price for the periods for which the block is defined.

An exclusive group is a cluster of sell and/or buy blocks out of which only one block can be activated. Blocks in exclusive groups can be curtailable, but in that case the MAR must be higher than 50%. However, block orders within an exclusive group cannot be linked.

In addition, blocks can also be offered by way of flexi orders. A flexi order is a block order with a maximum duration of 23 consecutive hours, with an interval limit that can span any period from 00:00 to 24:00. The starting hour of a flexi order is not defined by the user – it is determined by the algorithm to find a time during which the specific block offers the most socio-economic benefits. These types of offers give companies with power-intensive consumption the ability to sell back power to the day-ahead market if consumption is reduced for a certain period.

1.4 Balancing market and price development

The system operator (Elering AS in Estonia) uses the balancing market to maintain balance: to make sure that the generation and consumption of electricity are harmonised and the electricity system is balanced. On the day-ahead and intraday markets, production and consumption are determined by market participants. However, some deviation from the actual data is common, which is why the system operator deals with maintaining the balance within the hour. On the balancing market, marginal pricing principles are used.

A common Baltic balancing market was launched on 1 January 2018. The objective of the balancing market is to balance consumption and generation, i.e. to ensure stable frequency within the system. As a result, trading on the balancing market starts after the closing of the day-ahead and intraday market window to cover the potential imbalance occurring after the closing of the above markets, where necessary. Market participants can submit their balancing energy bids for both down-regulation or up-regulation directly to the system operator who can activate the respective bids to maintain the stability of the power system. With the launch of the balancing market, the Baltic States also started to manage the power balance of the system in a coordinated manner, aiming to increase the cost-effectiveness of power system management and decrease the total imbalance in the Baltics. The nominated system operator is responsible for balance control of the Baltic power systems. The role of the nominated system operator is rotated quarterly between Baltic system operators on a contractual basis, it should be pointed out here that Elering has been the nominated system operator since the beginning of 2018.

The nominated system operator is responsible for the operation of the Baltic balancing market, the real-time monitoring of total imbalance in the Baltics, and the initiation of the activation of balancing capacity to manage the power balance.

Each system operator is responsible for submitting balancing reserve bids made by balancing service providers to the Baltic common merit order list (CMOL), maintaining the operational security of its control area, deciding on the activation of balancing bids in exceptional circumstances, and performing balancing settlement within its imbalance area.

Balancing reserve bids on the Baltic balancing market can be submitted by market participants who have concluded a respective contract for the provision of balancing services with the system operator. Estonian, Latvian and Lithuanian market participants have concluded contracts for participation in the balancing market. In addition, Elering has an emergency reserve power station in Kiisa which is only activated in the event of an emergency in the system¹¹. Pursuant to paragraph 18.2 of the Baltic Balancing Market Rules, Kiisa emergency reserve power station may only be activated after the common merit order list of manual frequency restoration reserves standard product is used¹².

After the deadline for the submission of bids has passed, each system operator gathers all bids received from the balancing service operators operating in their area and forwards them to other Baltic system operators, as a result of which the Baltic common merit order list (CMOL) is created. It is important to note that the issuing of balancing orders as well as any other data exchange with balancing service providers always takes place at a local system level.

Bidding on balancing reserves is voluntary for market participants. For Estonian market participants, a prerequisite for making bids is the conclusion of a bilateral contract with Elering in which the procedure and requirements for bidding are fixed. Market participants can submit balancing bids or change biddings that have already been submitted up to 45 minutes before the operational hour begins. Balancing reserve has to be fully activated within 15 minutes from when the order to activate has been granted and its full capacity realisation needs to be guaranteed until the operational hour ends.

In addition, Elering mediates the balancing bids in the Baltic CMOL to the Finnish system operator, and the Finnish system operator mediates the balancing bids in its control area to the Baltic CMOL through Elering.¹³

More information about the organisation of the electricity market can be found in the analysis of the Competition Authority entitled 'Euroopa elektrituru ülesehitus Eesti näitel, regulatsiooni paindlikkus ja võimalused turukorralduslikeks muudatusteks' (The structure of the European electricity market on the example of Estonia, the flexibility of the regulation, and possibilities for changing the organisation of the market)¹⁴.

¹¹'Emergency reserve power station' means a power station where electricity is generated in the case of an unexpected shutdown of a production or transmission capacity of the system or of the power system of another country which is electrically connected to the system or in the event of a threat to the security of supply of the system (clause 1 of § 3 of the Electricity Market Act)

¹² Baltic Balancing Market Rules:

<https://elering.ee/sites/default/files/public/Teenused/Bilansiteenus/Annex%2010%20Baltic%20Balancing%20Market%20Rules%2020211221.pdf>

¹³ <https://elering.ee/elektrituru-kasiraamat/4-bilansihaldus/41-bilansihalduse-ulevaade>

¹⁴ The analysis of the Competition Authority is available here:

https://www.konkurentsiamet.ee/sites/default/files/euroopa_elektriturg_29.03.2022_.pdf

2 Description of power exchange prices on 17 August 2022

On 17 August 2022, the average price of electricity in the Estonian price area increased to 682.05 €/MWh, with the price being 4000 €/MWh from 18:00 to 19:00 which was the maximum price of the power exchange. Similarly, on 17 August 2022, the average price of electricity in Latvia and Lithuania also increased to 823.98 €/MWh in both countries and in the one-hour slot the price also reached 4000 €/MWh. Figure 7 shows the average day-ahead market prices in different price areas on 17 August 2022 and Figure 8 shows the day-ahead market prices for a one-hour slot from 18:00 to 19:00 in different price areas on 17 August 2022.

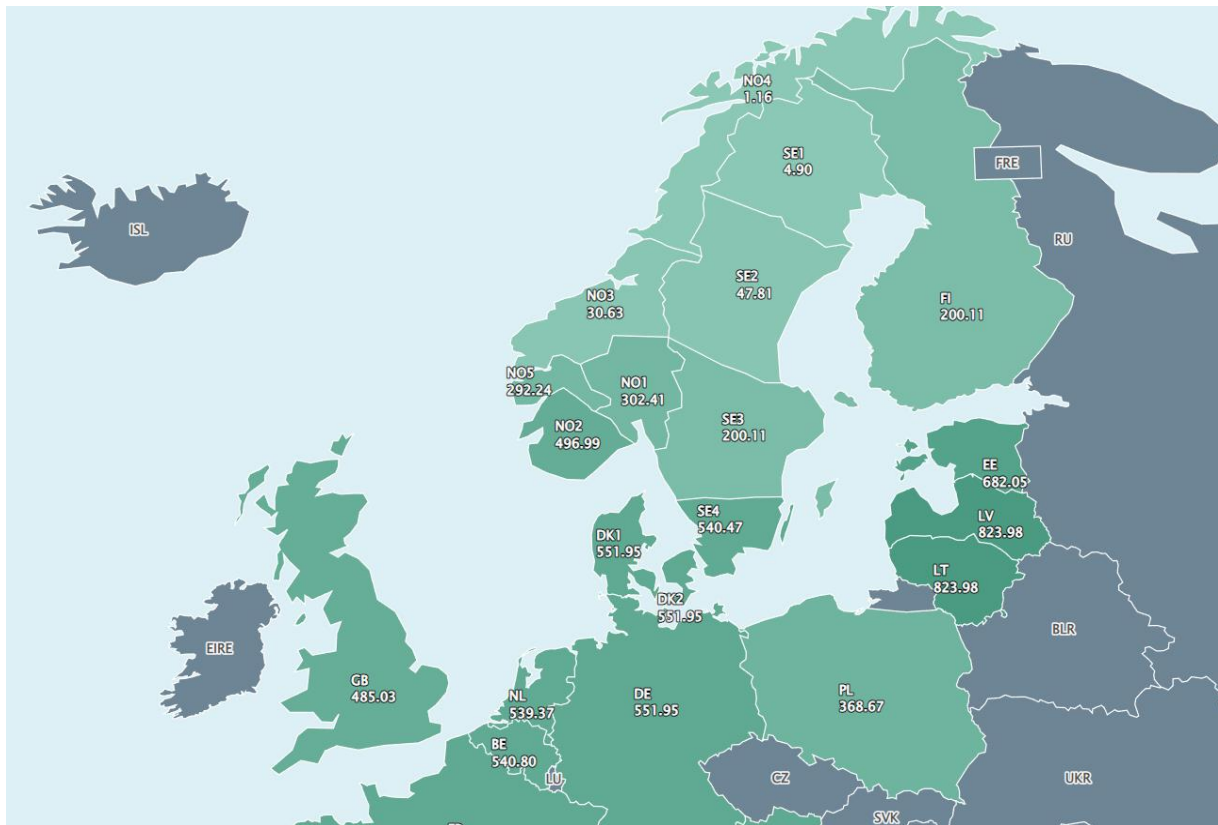


Figure 7. Average day-ahead market prices on the Nord Pool power exchange in different price areas on 17 August 2022 (Nord Pool)

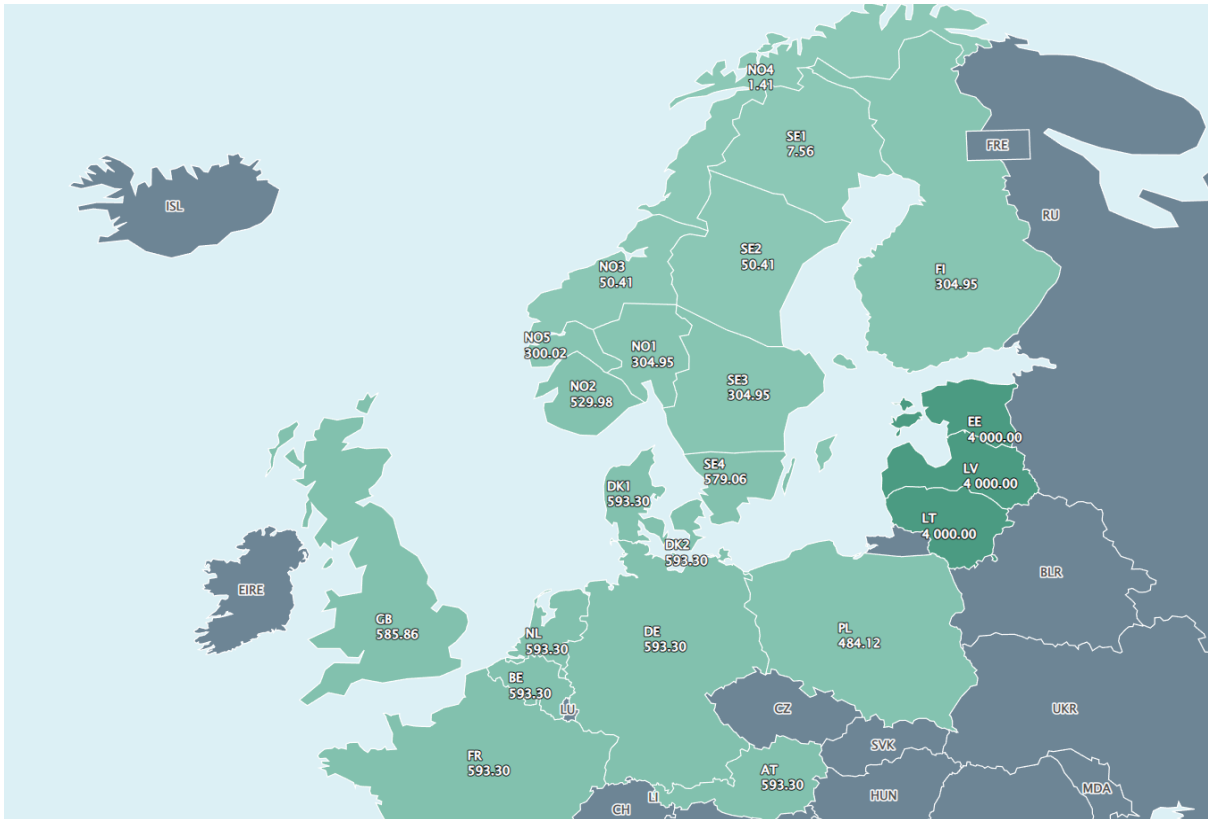


Figure 8. Day-ahead market prices on the Nord Pool power exchange in different price areas from 18:00 to 19:00 on 17 August 2022 (*Nord Pool*)

Figure 9 shows the day-ahead supply and demand curve for the one-hour slot from 18:00 to 19:00 on 17 August 2022. It can be seen in Figure 9 that on 17 August 2022 the day-ahead supply and demand curves for the one-hour slot from 18:00 to 19:00 did not intersect. The supply and demand curves did not intersect due to supply shortages on the day-ahead market from 18:00 to 19:00 as a significant part of Estonian generation units were not available due to maintenance/repair works, the offers of some electricity producers were paradoxically rejected, and the transmission capacity of cross-border interconnections was limited. As there was a shortage in supply on the day-ahead market, the price soared to the maximum day-ahead market price, i.e. 4000 €/MWh. The harmonised maximum and minimum clearing prices for single day-ahead coupling are regulated by specific methodology across Europe¹⁵.

¹⁵ The methodology is available here: https://www.nemo-committee.eu/assets/files/nemo_committee_files/acer-sdac-anex.PDF

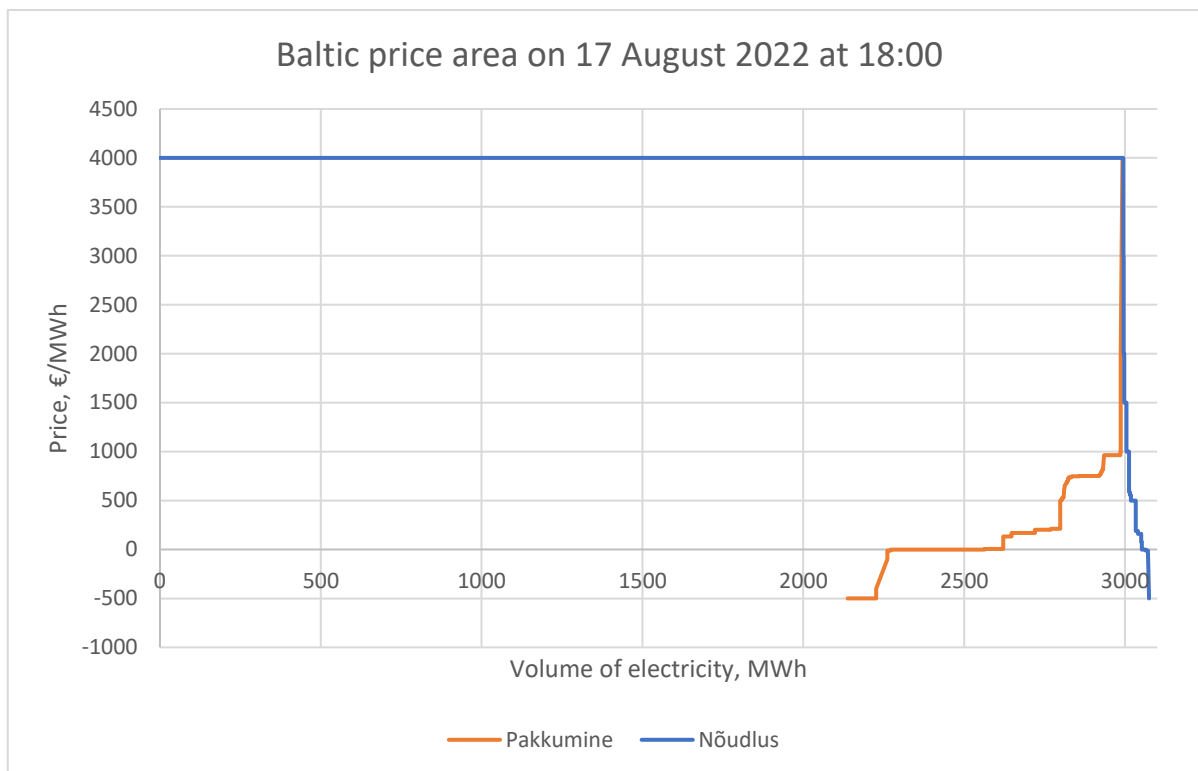


Figure 9. Nord Pool supply and demand curves in the Baltic region on the day-ahead market from 18:00 to 19:00 on 17 August 2022 (*Nord Pool*)

2.1 Reasons that led to an electricity price increase on 17 August 2022

On 28 December 2011, Regulation (EU) No 1227/2011 of the European Parliament and of the Council on wholesale energy market integrity and transparency came into force (REMIT)¹⁶. The objective of this Regulation is to prevent the abuse of wholesale energy markets and thereby protect final consumers. This Regulation establishes rules prohibiting abusive practices affecting wholesale energy markets such as insider trading and market manipulation. The Agency for the Cooperation of Energy Regulators (ACER) in close cooperation with national regulatory authorities, which in Estonia is the Competition Authority, monitors compliance with the requirements of this Regulation (for more information on REMIT, see Annex 2).

The Competition Authority will now set out the reasons that led to the increase in the electricity price on 17 August 2022 and explain why the necessary amount of production capacity did not reach the market in the Baltic States in the one-hour slot from 18:00 to 19:00. The Competition Authority also analysed whether a breach of the REMIT might have occurred in this case.

2.1.1 Cross-border transmission capacities on 17 August 2022

As cross-border transmission capacities have a considerable impact on the development of power prices, the Competition Authority would like to point out the cross-border transmission capacity restrictions and

¹⁶ The REMIT is available here: <https://eur-lex.europa.eu/legal-content/ET/TXT/PDF/?uri=CELEX:32011R1227&from=EN>

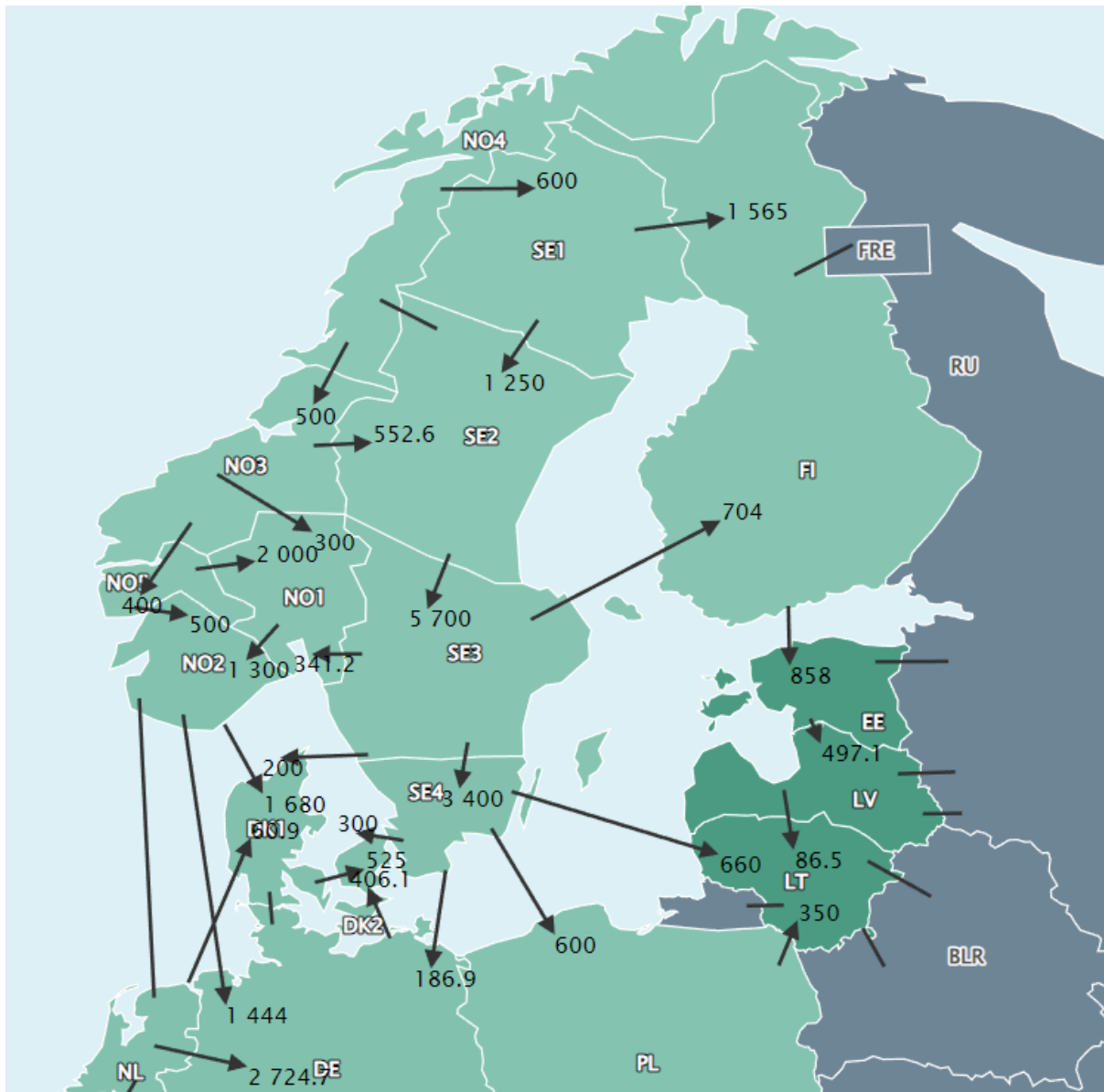


Figure 11. Transmission capacities and cross-border electricity flow from 18:00 to 19:00 on 17 August 2022 (Nord Pool)

It can be seen in Figure 11 that 858 MW was transferred from Finland to Estonia although the maximum capacity of EstLink 1 and EstLink 2 is 1016 MW, meaning that from 18:00 to 19:00 the transmission capacity was limited by 158 MW. Transmission capacity was restricted due to maintenance on Line 359 (line between Püssi substation and Balti Power Plant), a corresponding urgent market message was published¹⁷. Transmission capacity from Estonia to Latvia was 497.1 MW. However, between 18:00 and 19:00 it was possible to transmit 600 MW even though the maximum capacity of the lines between Estonia and Latvia is 1447 MW. Transmission capacity from Estonia to Latvia was restricted by 847 MWh due to maintenance on Line 300 (line between Tartu and Balti Power Plant) and Line Tartu-Valmiera, a corresponding urgent market message was published¹⁸. Transmission capacity from Latvia to Lithuania

¹⁷ Urgent market message on the restriction of transmission capacity from Finland to Estonia:

<https://umm.nordpoolgroup.com/#/messages/50d24d09-cabe-4b9f-ac63-9da2d0a1d209/4>

¹⁸ Urgent market message on the restriction of transmission capacity from Estonia to Latvia:

<https://umm.nordpoolgroup.com/#/messages/39d190f7-bcf2-422c-b513-2f7820f0f33e/70>

was 86.5 MW. However, between 18:00 and 19:00 it was possible to transmit 701 MW even though the maximum capacity is 1201 MW. Therefore, transmission capacity from Latvia to Lithuania was restricted by 500 MW due to maintenance on the transmission lines of Grobina-Klaipeda 324, Jurbarkas-Bitenai LN531, Jelgava-Siauliai-Telsiai 305/457, a corresponding urgent market message was published¹⁹. A total of 350 MW was transmitted from Poland to Lithuania as transit flow although the maximum capacity is 500 MW. This indicates that transmission capacity from Poland to Lithuania was restricted by 150 MW due to maintenance on Line Alytus-Elk Bis 2 in the Polish network, a corresponding urgent market message was published²⁰. A total of 660 MW was transmitted from Sweden to Lithuania although the maximum capacity is 700 MW. This means that transmission capacity from Sweden to Lithuania was restricted by 40 MW. Pursuant to Commission Regulation (EU) No 543/2013 of 14 June 2013 on submission and publication of data in electricity markets, transmission network operators do not have provide notification of restrictions not exceeding 100 MW.

The total cross-border capacity of Baltic States with neighbouring countries is 2216 MW, of which 348 MW was restricted in the direction of the Baltics from 18:00 to 19:00 on 17 August 2022. There was a shortage of 2.14 MWh in production capacity within this one-hour slot, resulting in a situation where the maximum market price of 4000 €/MWh was reached. In light of the above, the Competition Authority is of the opinion that it is essential for Baltic system operators to coordinate planned transmission capacity maintenance and repair work in such a way as to prevent a situation where the maintenance and repair of important transmission capacities takes place at the same time.

2.1.2 Production capacities of the Baltic States on 17 August 2022

On 17 August 2022, Estonia produced 13 389 MWh, Latvia 3902 MWh, and Lithuania 15 027 MWh. In the one-hour slot from 18:00 to 19:00, production fell to 476 MWh in Lithuania although one hour earlier the same figure was 600 MWh, in Latvia, production increased somewhat to 385 MWh, and in Estonia, production was 515 MWh (see Figure 12).

¹⁹ Urgent market message on the restriction of transmission capacity from Latvia to Lithuania: <https://umm.nordpoolgroup.com/#/messages/c0362d18-5f38-4b8b-a2dc-50a7f32aa361/32>

²⁰ Urgent market message on the restriction of transmission capacity from Poland to Lithuania: <https://umm.nordpoolgroup.com/#/messages/b89ab9fc-b423-4305-a4ed-ee5beabe9a80/1>

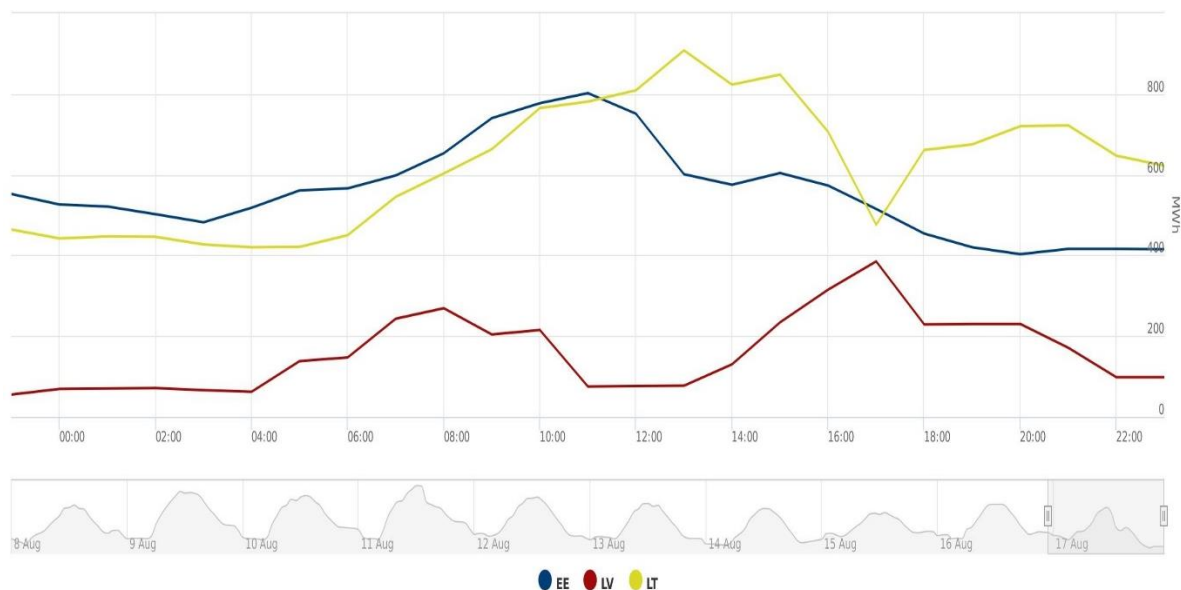


Figure 12. Generation on the day-ahead market in Estonia, Latvia, and Lithuania on 17 August 2022 (Nord Pool)²¹

In the Estonian area, there were six unavailable generation units on 17 August 2022 with a total capacity of 1004 MW. Of these generation units, two were unavailable due to unplanned failure with a total capacity of 447 MW, and four were unavailable due to planned maintenance. The following generation units in Estonia were unavailable due to planned maintenance: Balti G11 (192 MW), Estonian G4 (98 MW), Estonian G6 (173 MW) and Iru G2 (94 MW). Auvere G-1 (274 MW) and Estonian G5 (173 MW) were unavailable due to unplanned failures. Urgent market messages on unavailable generation units in Estonia were published^{22, 23, 24, 25, 26, 27}.

At the same time, three generation units in Latvia were also unavailable with a total capacity of 246 MW. One of which was unavailable due to unplanned reasons. The hydropower plants of Plavinas G07 (90 MW) and Kegums G02 (18 MW) as well as the CHP plant Latvenergo CHP-1 (138 MW) were unavailable. Urgent market messages on unavailable generation units in Latvia were published^{28, 29, 30}.

²¹ All times shown in figures are in Central European Time (CET).

²² Urgent market message on the Balti G11 generation unit:

<https://umm.nordpoolgroup.com/#/messages/1716016d-c2bd-48c6-a53d-97231252c14f/7>

²³ Urgent market message on the Estonian G4 generation unit:

<https://umm.nordpoolgroup.com/#/messages/cc3100f8-0787-43b3-b264-f699b2ce1676/5>

²⁴ Urgent market message on the Estonian G6 generation unit:

<https://umm.nordpoolgroup.com/#/messages/df4287c5-3c18-4fff-aa35-ac480ea2c010/1>

²⁵ Urgent market message on the Iru G2 generation unit:

<https://umm.nordpoolgroup.com/#/messages/4acfb633-a754-47e1-9aaa-40220dc2febd/2>

²⁶ Urgent market message on the Auvere G-1 generation unit:

<https://umm.nordpoolgroup.com/#/messages/a180a0cc-ed23-4f2b-8c66-a958f3cd6234/3>

²⁷ Urgent market message on the Estonian G5 generation unit:

<https://umm.nordpoolgroup.com/#/messages/7f421f3c-0255-4b10-81f9-c87dab2ff0ce/4>

²⁸ Urgent market message on the generation unit Plavinas G07:

<https://umm.nordpoolgroup.com/#/messages/1f01b514-7d9a-4f9f-bbe2-d54674e3c598/1>

²⁹ Urgent market message on the generation unit Kegums G02:

<https://umm.nordpoolgroup.com/#/messages/cd598881-7ba2-4bff-bb16-7eaf5364d0bd/2>

³⁰ Urgent market message on the generation unit Latvenergo CHP-1:

<https://umm.nordpoolgroup.com/#/messages/220c01bf-a4c5-4760-a6ef-83cf06c3c741/12>

In Lithuania, one generation unit Kauno elektrine with a capacity of 60 MW was unavailable due to planned maintenance. An urgent market message on the unavailable generation unit in Lithuania was published³¹.

At the same time, 17 generation units in Finland were also unavailable for planned maintenance with a total capacity of 3013 MW. The following generation units were unavailable due to planned maintenance: Naantali biomass power plant (250 MW), Loviisa nuclear power plant Block 2 (507 MW), Meri-Pori coal plant Block 1 (565 MW), Vuosaari gas power plant Blocks 6, 4 and 5 (total capacity 480 MW), Martinlaakso B1 and B2 (100 MW), Toppila B2 (98 MW), Salmisaari coal plant (155 MW), Kaukaan Voima biomass power plant (125 MW), Naantali Na4CHP (145 MW), Suomenoja 1, 2 GT and 2 ST (309 MW), Keljonlahti (190 MW), and Martinlaakso CCGT (89 MW). Urgent market messages on unavailable generation units in Finland were published^{32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48}.

As Figures 13 and 14 show, compared to a previous period, a significant number of generation units were unavailable at the same time both in Estonia and in Finland on 17 August 2022. When comparing the day-ahead weekly market prices on the Nord Pool power exchange (see Figure 18) with the unavailability of the generation units of the same period, it is clear that the more unavailable generation units there are, the higher the market price on the power exchange will be. As significant number of both Finnish and Estonian generation units were unavailable on 17 August 2022, the market price during the same period was particularly high.

³¹ Urgent market message on the Kauno elektrine generation unit:

<https://umm.nordpoolgroup.com/#/messages/1fcb8e3a-3163-4ed9-a8da-11808c6e1d48/4>

³² Urgent market message on the Naantali generation unit:

<https://umm.nordpoolgroup.com/#/messages/ff207b34-0ef7-4e52-a120-da22d12b4cbe/2>

³³ Urgent market message on the Loviisa Block 2 generation unit:

<https://umm.nordpoolgroup.com/#/messages/218b445a-877e-40ba-b141-334117f2d7fe/3>

³⁴ Urgent market message on the Meri-Pori B1 generation unit:

<https://umm.nordpoolgroup.com/#/messages/d5826475-1c33-48e1-b6ab-c74f3e9493fa/1>

³⁵ Urgent market message on the Vuosaari VuB6 generation unit:

<https://umm.nordpoolgroup.com/#/messages/e26957ba-704d-41da-bed4-f7758a807e20/4>

³⁶ Urgent market message on the Vuosaari VuB4 generation unit:

<https://umm.nordpoolgroup.com/#/messages/2b915f8e-c356-4de3-ae4a-7602ebf4e81c/4>

³⁷ Urgent market message on the Vuosaari VuB5 generation unit:

<https://umm.nordpoolgroup.com/#/messages/617848de-8fa7-4a07-b88d-caf4b1d9c802/4>

³⁸ Urgent market message on the Martinlaakso B1 generation unit:

<https://umm.nordpoolgroup.com/#/messages/4efde5f7-023b-4815-bf6e-37a6c0ab2fb8/4>

³⁹ Urgent market message on the Martinlaakso B2 generation unit:

<https://umm.nordpoolgroup.com/#/messages/765269a1-5870-491b-b6c6-76a1c1ab0821/2>

⁴⁰ Urgent market message on the Toppila B2 generation unit:

<https://umm.nordpoolgroup.com/#/messages/377c326f-9027-46be-be22-68e71d613706/3>

⁴¹ Urgent market message on the Salmisaari generation unit:

<https://umm.nordpoolgroup.com/#/messages/9629c6e4-1bcf-4607-983d-e8384dc0a9c5/5>

⁴² Urgent market message on the Kaukaan Voima generation unit:

<https://umm.nordpoolgroup.com/#/messages/b25786fe-bb58-4bf6-97a2-5158ce8f8688/4>

⁴³ Urgent market message on the Naantali Na4CHP generation unit:

<https://umm.nordpoolgroup.com/#/messages/1173da27-2c84-444c-b107-04a985fc96cc/3>

⁴⁴ Urgent market message on the Suomenoja 1 generation unit:

<https://umm.nordpoolgroup.com/#/messages/7d452023-72b4-433e-a415-705ea9d9dbd1a/2>

⁴⁵ Urgent market message on the Suomenoja 2 GT generation unit:

<https://umm.nordpoolgroup.com/#/messages/261651d9-17da-4277-a752-a88229f54402/1>

⁴⁶ Urgent market message on the Suomenoja 2 ST generation unit:

<https://umm.nordpoolgroup.com/#/messages/d85f61e6-c5cc-415c-a4c2-9e8a11d9fc69/1>

⁴⁷ Urgent market message on the Keljonlahti generation unit:

<https://umm.nordpoolgroup.com/#/messages/5e7b4a68-584b-4d34-aead-4be11f09b15d/2>

⁴⁸ Urgent market message on the Martinlaakso CCGT generation unit:

<https://umm.nordpoolgroup.com/#/messages/4e6ef234-f7cd-406a-8ca9-b141b8210ebb/1>

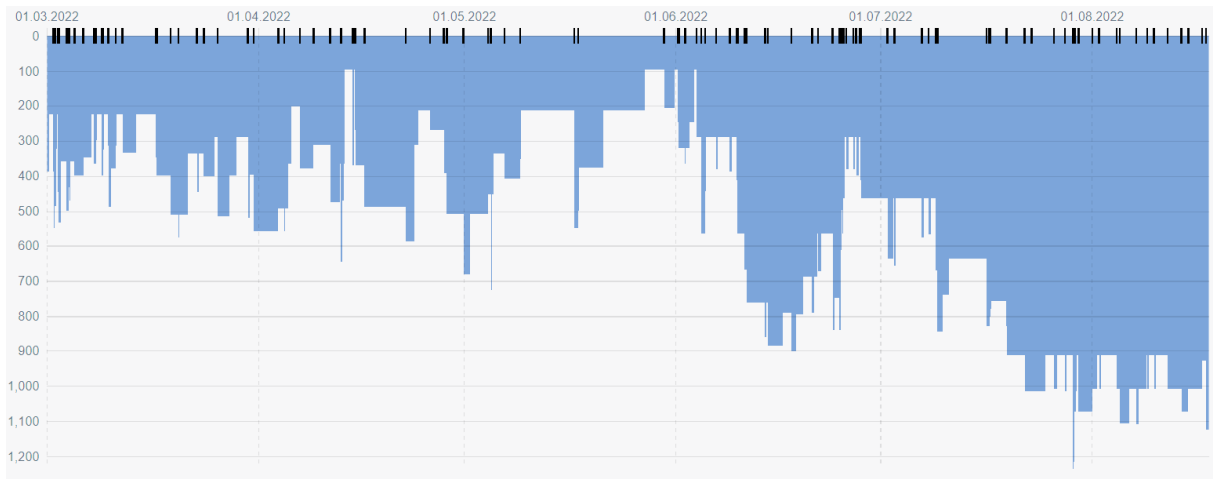


Figure 13. Unavailable production capacities in Estonia between 1 March 2022 and 17 August 2022 (*Nord Pool*)

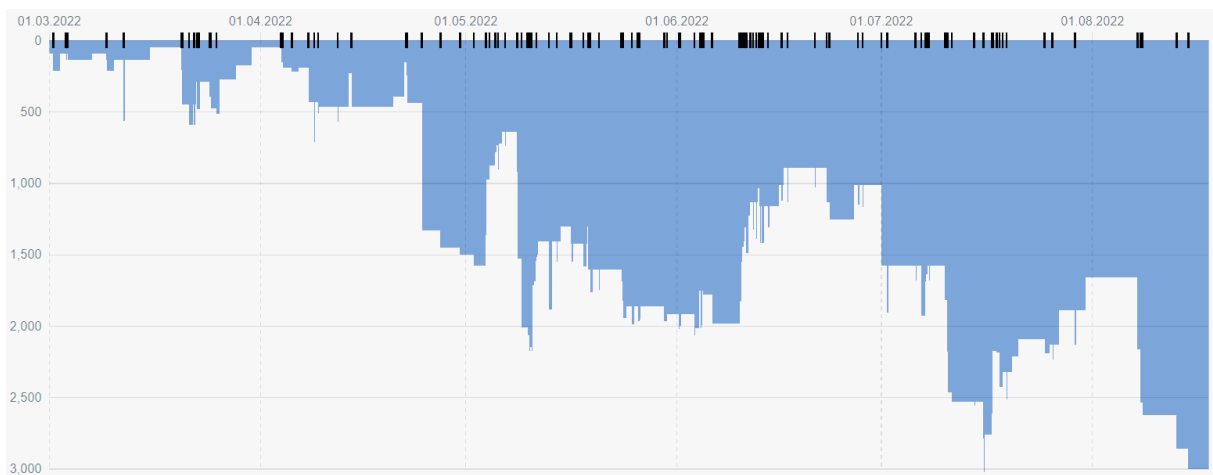


Figure 14. Unavailable production capacities in Finland between 1 March 2022 and 17 August 2022 (*Nord Pool*)

The unavailable production capacities in Latvia and Lithuania are shown in Figures 15 and 16, respectively. Compared to a previous period, the capacity of unavailable generation units was not higher in Latvia or Lithuania on 17 August 2022. However, the unavailable production capacity of 246 MW in Latvia in combination with the unavailable Estonian and Finnish generation units had an exacerbating impact on the production deficit.

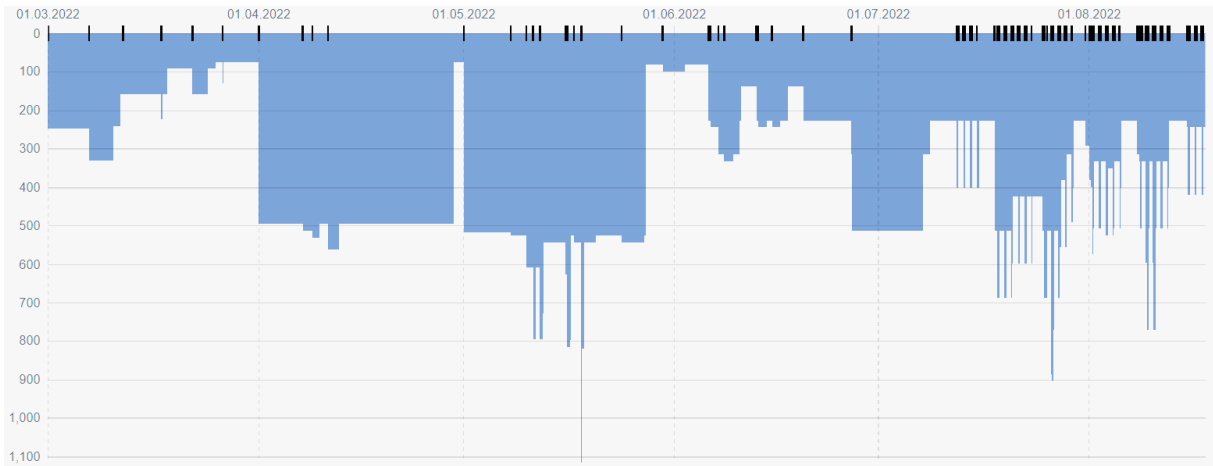


Figure 15. Unavailable production capacities in Latvia between 1 March 2022 and 17 August 2022 (*Nord Pool*)

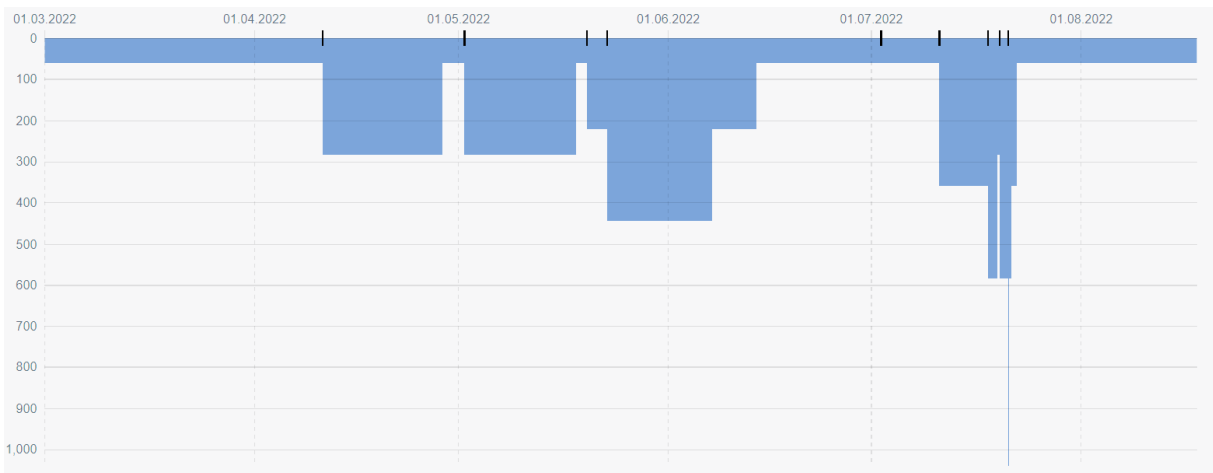


Figure 16. Unavailable production capacities in Lithuania between 1 March 2022 and 17 August 2022 (*Nord Pool*)

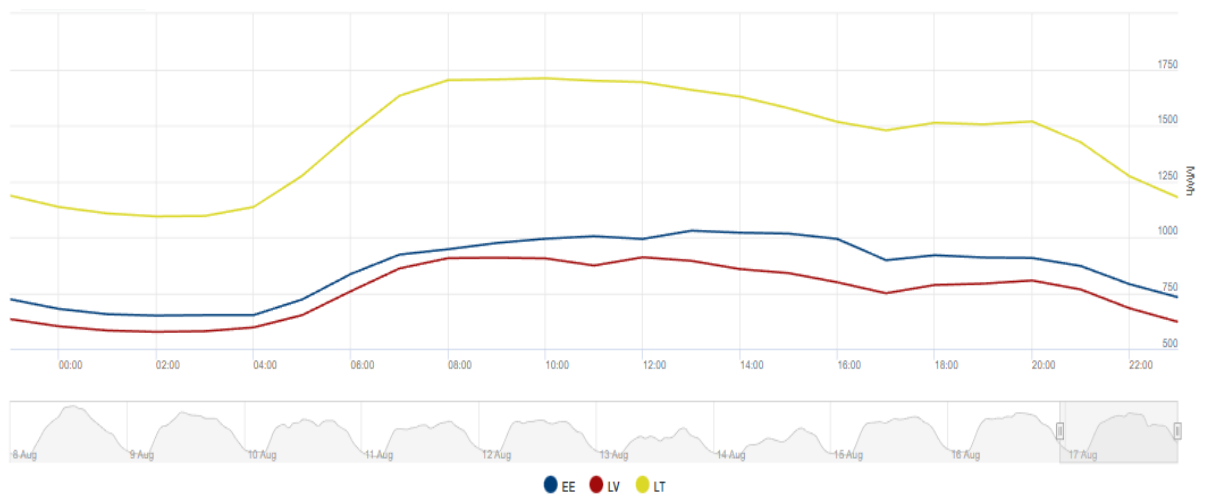


Figure 17. Consumption on the day-ahead market in Estonia, Latvia, and Lithuania on 17 August 2022 (*Nord Pool*)

On 17 August 2022, a total of 20 753 MWh of electricity was consumed in Estonia, 18 295 MWh in Latvia, and 34 718 MWh in Lithuania. A slight decrease in consumption can be seen in the Baltic States from 18:00 to 19:00 (see Figure 17) when the maximum price occurred on the day-ahead market. In Estonia, 897 MWh of electricity was consumed, in Latvia 749 MWh, and in Lithuania 1478 MWh.

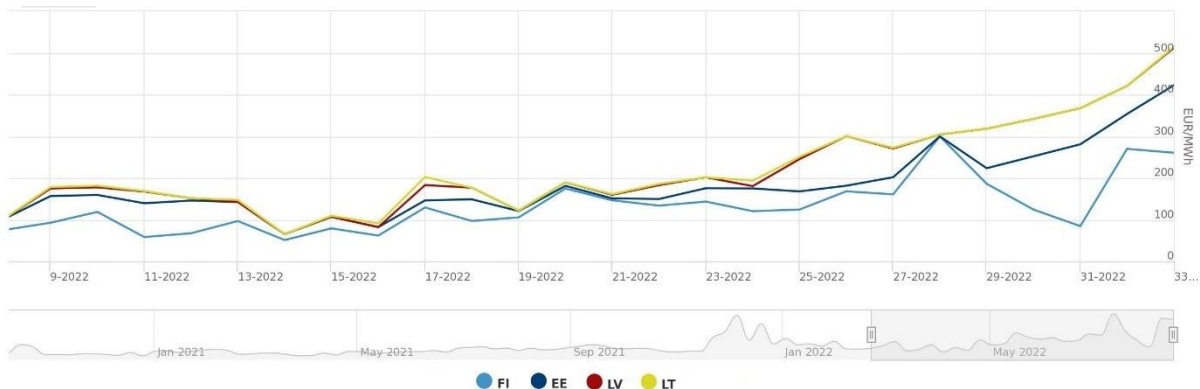


Figure 18. Weekly change in the day-ahead market price in Finland, Estonia, Latvia, and Lithuania (*Nord Pool*)

The Baltics have the most interconnections with the Nordics (EstLink 1 and 2 with total capacity of 1016 MW, NordBalt with 700 MW) and with Poland via LitPolLink (500 MW). As a result, the availability of hydropower (including the efficiency of the connections) in the Nordics significantly influences the electricity price in Estonia. If there are restrictions or bottlenecks in connections with the Nordic countries, the availability and price of local production capacities start to play a bigger role. In Estonia, this means the availability of oil shale production capacities, including the price of CO₂, and in Latvia and Lithuania, the prices of gas plants. In addition, the output capacity of wind power also influences the local price.

In light of the above, the Competition Authority is of the opinion that it is essential for large Baltic producers (Enefit Power, Latvenergo, and Ignitis) to coordinate planned transmission capacity maintenance and repair work in such a way as to prevent a situation where the maintenance of important generation units takes place at the same time.

2.1.3 Wind power generation

Renewable energy is often offered at zero or even negative price on the market as the variable costs associated with the generation unit are low or non-existent. One of the cheapest energy sources on the market is wind power. An increase in the share of renewable energy offers on the market has a positive effect on the electricity price of the area. Unfortunately however, wind and solar power have variable supply as they depend on weather. Since the price areas of the Baltic region are relatively small in terms of generation and consumption when compared with other areas, the regional price development is highly sensitive to changes in generation and consumption. Therefore, it is also essential to analyse the generation of wind power. Figure 19, which illustrates the hourly wind power generation in the Baltics shows that, on 17 August 2022, wind power generation was exceptionally low in Lithuania, in particular, but also in Estonia and Latvia.

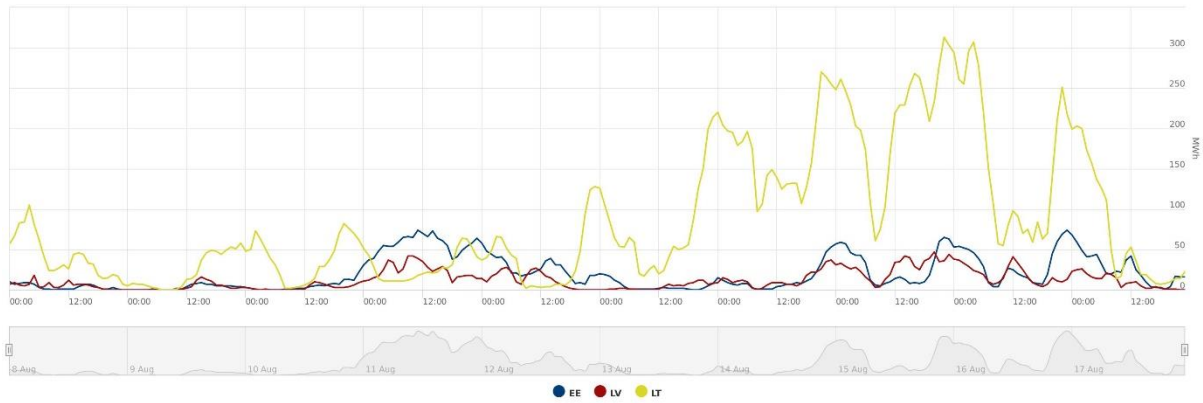


Figure 19. Hourly wind power generation in the Baltics between 8 August 2022 and 17 August 2022 (Nord Pool)

Figure 20 that illustrates the hourly wind power generation in the Baltics on 17 August 2022 shows that from 18:00 to 19:00 the total wind power supplied to the market in the Baltics was 11 MW (3 MW in Estonia, 4 MW in Latvia, and 8 MW in Lithuania).

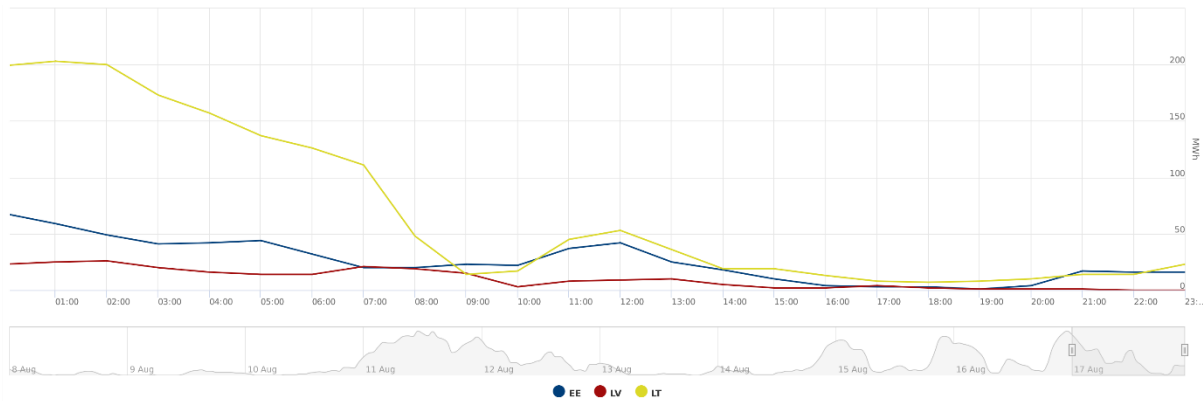


Figure 20. Hourly wind power generation on 17 August 2022 (Nord Pool)

At the same time, the wind power generation in both Estonia, Latvia, and Lithuania was extremely low, resulting in higher demand for controllable and reserve capacities.

2.1.4 Hydropower reservoir filling levels

As previously mentioned, renewable energy is often offered at a zero or even negative price on the market as the variable costs associated with the generation unit are low or non-existent. One of the cheapest energy sources on the market is also hydropower.

An increase in the share of renewable energy offers on the market has a positive effect on the electricity price of the area. However, hydropower is highly dependent on weather, as the amount of precipitation influences the level of water bodies. Therefore, renewable energy volumes used fluctuate often due to weather conditions. An overview of the available hydropower capacities in the Nordics is illustrated by the hydropower reservoir filling levels shown in Figure 21.

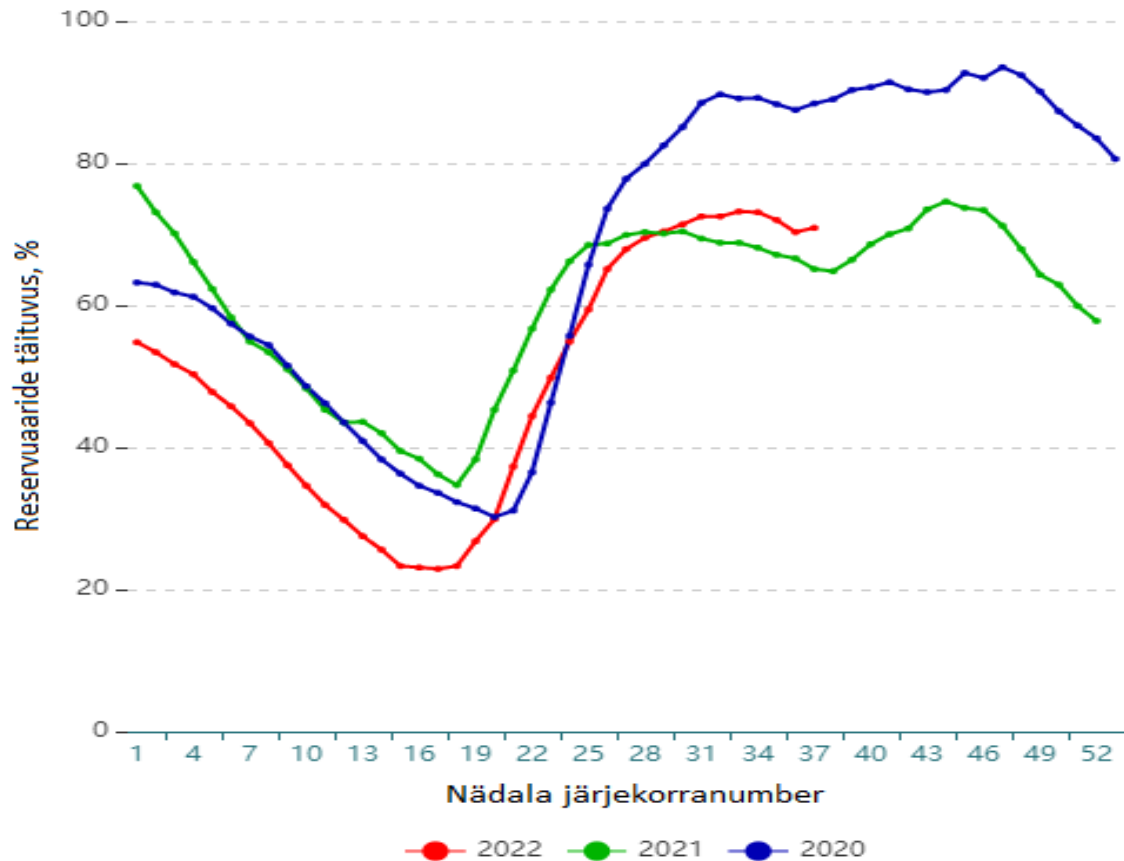


Figure 21. Filling levels of Nordic hydropower reservoirs from 2020 to 2021 (*Nord Pool*)

Figure 21 shows that, in August 2022, the filling levels of hydropower reservoirs of the largest hydropower producers in the Nordics, Norway and Sweden, and thus the availability of hydropower, were somewhat higher than in 2021, but significantly lower than in 2020. Compared with the same period last year, the filling levels of hydropower reservoirs were higher by 4.4% in August 2022, but 15.9% lower when compared with the same period in 2020. This means that, in mid-August 2022, the production capacity of the region was higher by 6 TWh per week than in 2021 at the same time, but lower by approximately 20 TWh than in the same period in 2020. This was due to the fact that the summers of 2021 and 2022 were unusually warm and dry. The significantly decreased hydropower capacity (which usually allows for cheaper prices) during the period in question negatively impacted the region’s electricity prices.

In conclusion, the circumstances of 17 August 2022 were also negatively impacted by the exceptionally low wind power generation, particularly in Lithuania but also in Estonia and Latvia as well as the abnormally low production capacity of Nordic hydropower.

3 Analysis of bids and offers on the power exchange

In cooperation with Latvian and Lithuanian regulators, the Competition Authority analysed the bids and offers made on the power exchange on 17 August 2022. In addition, the Competition Authority along with other regulators also compared the bids and offers made on 17 August 2022 with the bids and offers made on other dates. More specifically, the supply and demand curves for 10 August, 16 August, 17 August, and 18 August 2022 for the one hour-slot from 18:00 to 19:00 have been presented (see Figures 22, 23, 24, and 25), illustrating how bids and offers were made during that hour and what the final market price was.

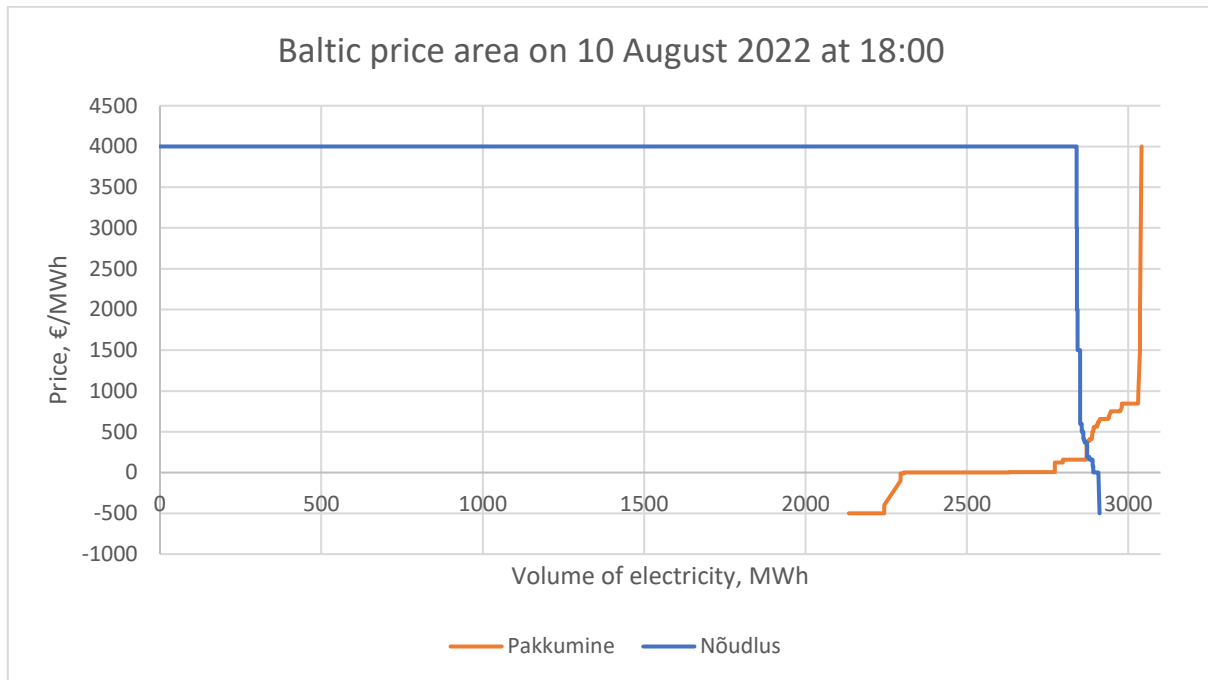


Figure 22. Supply and demand curves in the Baltic region on the day-ahead market from 18:00 to 19:00 on 10 August 2022 (*Nord Pool*)

According to Figure 22, the price for the time slot from 18:00 to 19:00 on 10 August 2022 was 353 €/MWh.

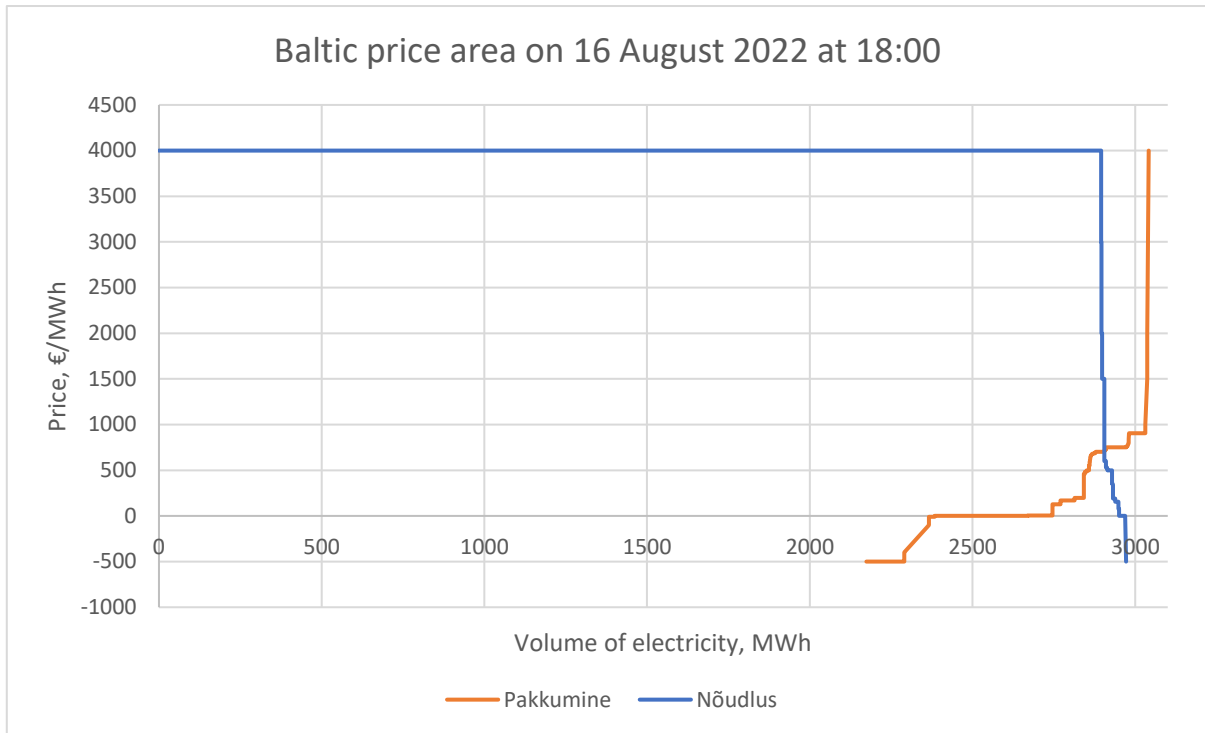


Figure 23. Supply and demand curves in the Baltic region on the day-ahead market from 18:00 to 19:00 on 16 August 2022 (*Nord Pool*)

According to Figure 23, the price for the time slot from 18:00 to 19:00 on 16 August 2022 was 708.09 €/MWh.

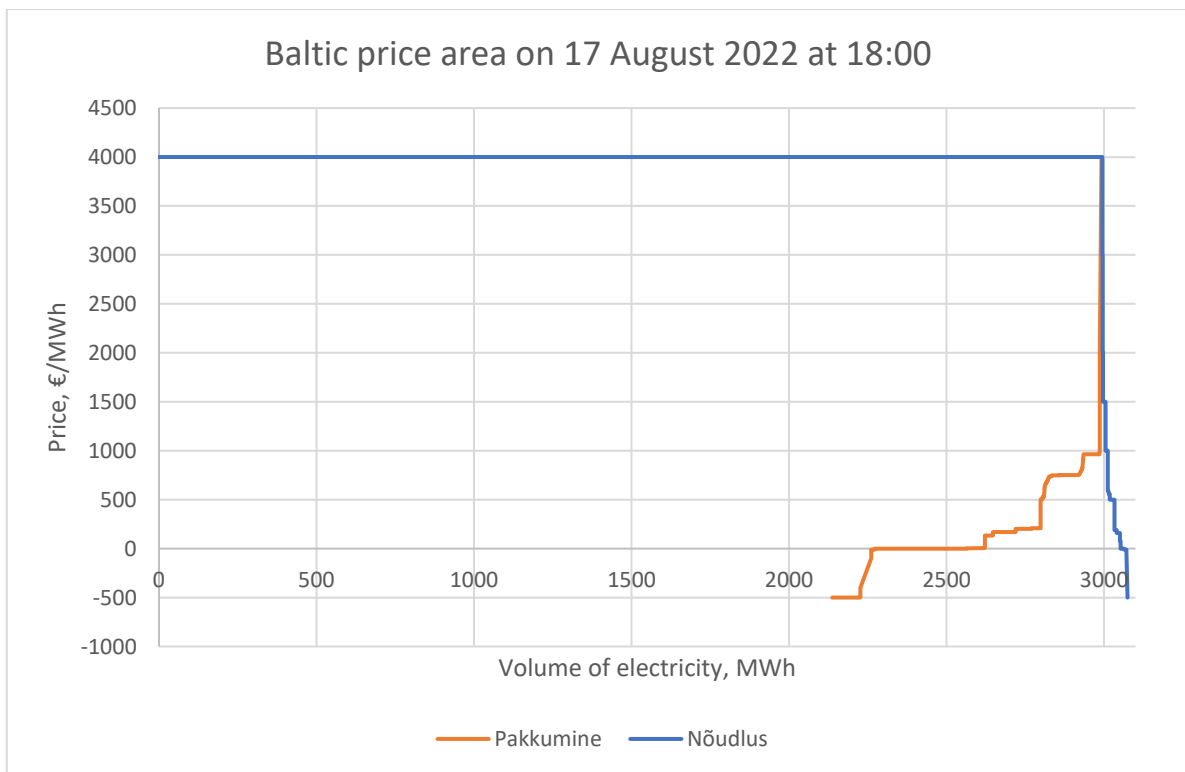


Figure 24. Supply and demand curves in the Baltic region on the day-ahead market from 18:00 to 19:00 on 17 August 2022 (*Nord Pool*)

Figure 24 shows that the supply and demand curves did not intersect, which means that the price for the time slot from 18:00 to 19:00 was 4000 €/MWh, i.e. the maximum price of the power exchange.

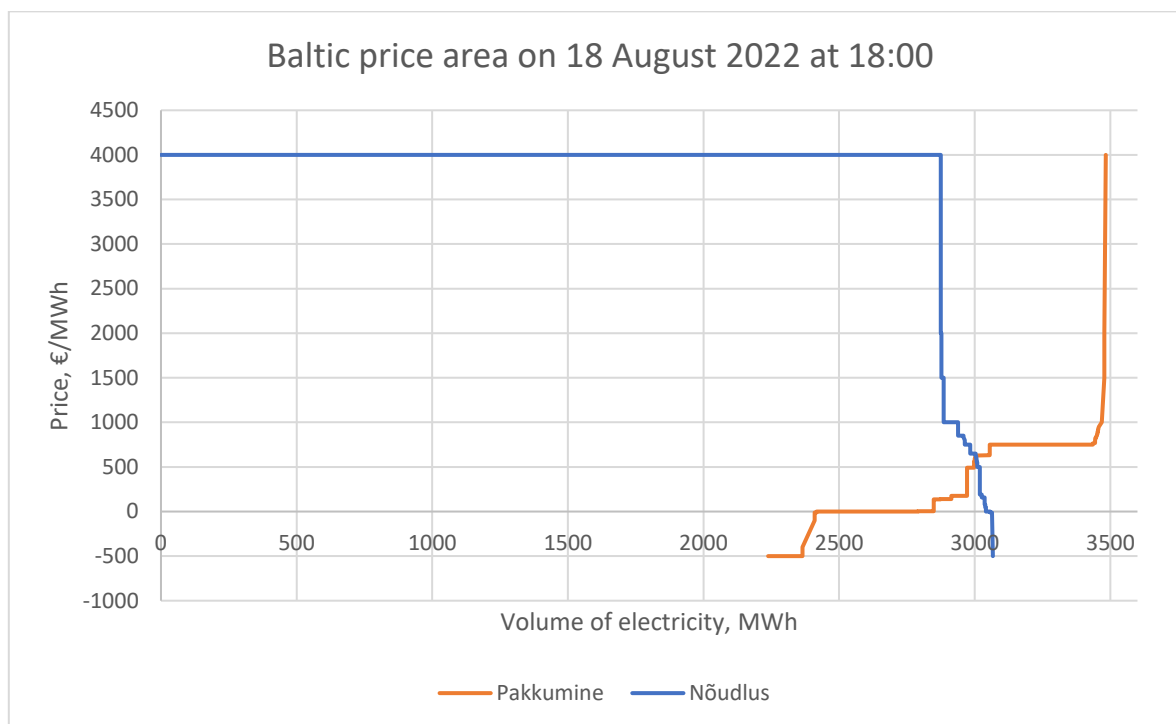


Figure 25. Supply and demand curves in the Baltic region on the day-ahead market from 18:00 to 19:00 on 18 August 2022 (*Nord Pool*)

According to Figure 25, the price for the time slot from 18:00 to 19:00 on 18 August 2022 was 616.96 €/MWh.

Figures 22, 23, 24, and 25 show that supply and demand curves did not intersect during the time slot from 18:00 to 19:00 on 17 August 2022. Figure 25 shows that the supply and demand curves were not flexible and a significant amount of capacity was offered by means of block orders. On other days (i.e. on 10, 16, and 18 August), the supply and demand curves intersected and the supply curves were somewhat more flexible than from 18:00 to 19:00 on 17 August 2022. In cooperation with Latvian and Lithuanian regulators, the Competition Authority analysed the offers and bids made by market participants on the power exchange and no breach of the REMIT was identified.

The Competition Authority will explain the circumstances of 17 August 2022 at 18:00 to 19:00 in more detail below.

As part of this analysis, it was established that since there was a shortage of production capacity from 18:00 to 19:00 on the Baltic market which resulted in the record price of 4000 €/MWh, then under the power exchange rules of Nord Pool, the 50 MW peak power reserve of the Lithuanian transmission network operator Litgrid was activated for the whole day and market prices were recalculated. Thanks to the added 50 MW, it was possible to avoid reaching the 4000 €/MWh price level in two other hours on the same day, but it still did not prevent the 4000 €/MWh price from occurring in the one-hour slot from 18:00 to 19:00 because a significant number of Estonian generation units were not available due to maintenance or repair work, the offers of some Baltic electricity producers were paradoxically rejected, and the transmission capacity of cross-border interconnections was limited. As a result, the shortage in production capacity totalled 2.14 MWh (0.57 MWh in Estonia, 0.6 MWh in Latvia, and 0.97 MWh in Lithuania).

It is important to note here that in the Baltics and Nordics an approach is used where peak power reserves are put into use when maximum price is reached, after which the market prices are recalculated. In the Central European market, however, the bid lists are reopened in such a case and market participants can resubmit their bids to prevent the price cap from being reached. According to the explanations of Nord Pool, market prices are calculated by a coordinating NEMO. The role of a coordinating NEMO is rotated every fortnight. On 17 August 2022, the coordinating NEMO was Nord Pool. The coordinating NEMO is responsible for calculating and publishing the market prices. Other NEMOs can also calculate prices, but their prices are not considered official and are not subject to publication. The Competition Authority together with the Latvian and Lithuanian regulators finds that Nord Pool, in cooperation with other NEMOs, should compare the price calculation results made for the day-ahead market and select a result that would most benefit the final consumers.

The analysis conducted by the Competition Authority shows that while there were sufficient generation units in the Baltics in the given hour, the block orders of larger Latvian and Lithuanian market participants were rejected by the system. The reason for the rejection was that if the block order of the participant had been activated, their order would not have been profitable during the period specified in the order so the system rejected the orders paradoxically. At the same time, the analysis also revealed that if the Latvian and/or Lithuanian block orders had been activated by the system, the price would not have reached 4,000 €/MWh (it would have been lower). In addition, the analysis indicated that, on 17 August 2022, a total of 81 offers were submitted on the Baltic day-ahead market for the hours from 18:00 to 19:00, of which 36 were realised. It should be noted here that the number of orders also includes exclusive group orders out of which only one block can be activated (for more information, see product description in section 1.3). In total, 40 exclusive group orders were made. However, the Competition Authority cannot publish the offers made on the power exchange, as they are deemed confidential (see Annex 2 for more information). On the basis of the above, the Competition Authority draws the following conclusions and makes the following proposals.

4 Conclusions and proposals

4.1 Conclusions

The analysis examined the circumstances which caused the day-ahead price on the Nord Pool power exchange to reach 682.05 €/MWh on 17 August 2022 as well as the maximum price level of 4000 €/MWh in a one-hour slot on the same day. 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. Compared with other EU markets, the Baltic market is exceptionally small. As a result, even the smallest changes on the market can significantly affect the prices (e.g. even the slightest restriction on transmission capacities).

As part of the analysis concluded in cooperation with Latvian and Lithuanian regulators, the Competition Authority did not identify any violations of the offers and bids submitted by market participants or of the market rules.

4.2 Proposals

In cooperation with Latvian and Lithuanian regulators, the Competition Authority came to the conclusion that the products offered must be made more suitable for the Baltic market. The Baltic regulators propose the following changes in the Nord Pool order types:

- To increase the number of scenarios in exclusive group block orders with the aim of increasing the flexibility of block orders.
- To increase the maximum number of flexi orders (of exclusive groups) offered per portfolio.
- To increase the granularity of block orders from 13 elements to 21 elements.
- In the case of block orders, to create an opportunity for market participants to set a separate Minimum Acceptance Ratio (MAR) for each hour. Currently, MAR is the same for all hours specified in the block order. Considering the size of the Baltic market and the low flexibility of large generation units, setting a separate MAR for each hour in the block order would increase the flexibility of the block order and the probability of market access.
- In the case of linked block orders, to allow market participants to set the ratio of the purchase and sales price of electricity. Such an approach would create more flexibility for market participants who submit orders on the basis of energy storage units.

In addition, the Competition Authority proposes the following to improve the functioning of the Baltic electricity market:

- Baltic system operators must coordinate planned transmission capacity maintenance and repair work with each other – situations where the maintenance and repair of important transmission capacities takes place at the same time should be avoided.
- It is essential for large Baltic producers (Enelit Power, Latvenergo, and Ignitis) to coordinate planned transmission capacity maintenance and repair work in such a way as to prevent a situation where the maintenance of important generation units takes place at the same time. To this end, the opportunities for the introduction of such a coordination mechanism should be analysed in cooperation with 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.
- The analysis showed that there was no shortage in production capacity at the moment the price cap was reached and that the reopening of the bid lists would most likely have helped to prevent the price cap from being reached. For this reason, power exchange operators should prepare a price cap activity plan and adopt an approach in which the **bid lists are reopened** in the event of a risk of high market prices, as it would allow for market participants to change their production bids.
- 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 or smaller-scale exclusive group orders or 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 block, 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.

The Competition Authority is of the opinion that the proposals presented would add flexibility and price elasticity to the Baltic electricity market.

Annex 1 – The CACM Regulation and Designation of Nominated Electricity Market Operators

Pursuant to Article 4(1) of the Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on capacity allocation and congestion management (CACM), each Member State electrically connected to a bidding zone in another Member State must ensure that one or more nominated electricity market operators (hereinafter NEMOs) are designated by four months after the entry into force of the CACM Regulation to perform the single day-ahead and/or intraday coupling. For that purpose, domestic and non-domestic market operators may be invited to apply to be designated as a NEMO.

Pursuant to Article 4(2) of the CACM Regulation, each Member State concerned must ensure that at least one NEMO is designated in each bidding zone on its territory. NEMOs are designated for an initial term of four years. Except where Article 5(1) applies, Member States must allow applications for designation at least annually.

Pursuant to Article 4(4) of the CACM Regulation, the designating authority assesses whether NEMO candidates meet the criteria set out in Article 6 of the CACM Regulation.

Pursuant to Article 6(1) of the CACM Regulation, an applicant is only designated as a NEMO if it complies with all of the following requirements:

- a) it has contracted or contracts adequate resources for common, coordinated and compliant operation of single day-ahead and/or intraday coupling, including the resources necessary to fulfil the NEMO functions, financial resources, the necessary information technology, technical infrastructure and operational procedures or it shall provide proof that it is able to make these resources available within a reasonable preparatory period before taking up its tasks in accordance with Article 7 of the CACM Regulation;
- b) it is able to ensure that market participants have open access to information regarding the NEMO tasks in accordance with Article 7 of the CACM Regulation;
- c) it is cost-efficient with respect to single day-ahead and intraday coupling and keeps in its internal accounting separate accounts for MCO functions and other activities in order to prevent cross-subsidisation;
- d) it has an adequate level of business separation from other market participants;
- e) if designated as a national legal monopoly for day-ahead and intraday trading services in a Member State, it must not use the fees in Article 5(1) of the CACM Regulation to finance its day-ahead or intraday activities in a Member State other than the one where these fees are collected;
- f) it is able to treat all market participants in a non-discriminatory way;
- g) it has appropriate market surveillance arrangements in place;
- h) it has in place appropriate transparency and confidentiality agreements with market participants and the transmission network operators; i) it is able to provide the necessary clearing and settlement services;
- j) it is able to put in place the necessary communication systems and routines for coordinating with the transmission network operators of the Member State.

Pursuant to Article 6(2) of the CACM Regulation, the designation criteria set out in Article 6(1) of the same Regulation must be applied in such a way that competition between NEMOs is organised in a fair and non-discriminatory manner.

Pursuant to Article 4(8) of the CACM Regulation, the Member State where the NEMO has been designated must ensure that designation is revoked if the NEMO fails to maintain compliance with the criteria in Article 6 and is not able to restore compliance within six months of being notified of such a failure by the designating authority. If the regulatory authority is not responsible for designation and monitoring, they must be consulted on the revocation. The designating authority must also notify the designating authority of the other Member States in which that NEMO is active of its failure to maintain compliance at the same time it notifies the NEMO.

Pursuant to Article 4(9) of the CACM Regulation, if a designating authority of a Member State finds that a NEMO active but not designated in its country fails to maintain compliance with the criteria in Article 6 with respect to its activities in this country, it must notify the NEMO of its non-compliance. If the NEMO does not restore compliance within three months of being notified, the designating authority can suspend the right to offer intraday and day-ahead trading services in this Member State until such time as the NEMO restores compliance. The designating authority must notify the designating authority of the Member State in which the NEMO is designated, the Agency and the Commission.

Annex 2 – REMIT Principles and Data Confidentiality

Regulation (EU) No 1227/2011 of the European Parliament and of the Council of 25 October 2011 covers the wholesale energy market integrity and transparency. In Article 2(1) of REMIT, the term ‘inside information’ is defined as follows:

‘inside information’ means information of a precise nature which has not been made public, which relates, directly or indirectly, to one or more wholesale energy products and which, if it were made public, would be likely to significantly affect the prices of those wholesale energy products.

In Article 2(4) of REMIT, the term ‘wholesale energy products’ is defined as follows:

‘wholesale energy products’ means the following contracts and derivatives, irrespective of where and how they are traded:

- a) contracts for the supply of electricity or natural gas where delivery is in the Union;
- b) derivatives relating to electricity or natural gas produced, traded or delivered in the Union;
- c) contracts relating to the transportation of electricity or natural gas in the Union;
- d) derivatives relating to the transportation of electricity or natural gas in the Union.

The Agency for the Cooperation of Energy Regulators (ACER) has prepared a guidance document on the application of REMIT which specifies that information that has a possible effect on the demand, supply and/or prices of a wholesale energy product, or on the expectations of the demand, supply and/or prices of a wholesale energy product, must be considered as directly or indirectly related to the wholesale energy product.

In this context, if the information is likely to have a significant effect on the prices of wholesale energy products, it is necessarily related to these products. Therefore, it is sufficient for the national regulatory authorities to assess the likelihood of a significant effect on the prices to establish whether the information relates to wholesale energy products.

Information is deemed to constitute inside information only if, were it made public, it would be likely to have a significant effect on the prices of related wholesale energy products.

Based on the condition of a significant price effect, ACER narrowed the wide notion of information down to the information that is crucial enough to have the potential to significantly affect the prices of wholesale energy products, and therefore to information that is relevant for trading.

It is important, however, to note that the mere ‘likelihood’ of a significant price effect is enough to meet this condition and that no actual price effect is required.

In terms of data confidentiality, undertakings have the right to the protection of business secrets. For example, pursuant to clauses 1 to 3 of subsection 2 of § 5 of the Restriction of Unfair Competition and Protection of Business Secrets Act, a business secret is information which meets the following requirements:

- 1) it is not, as a body or in the precise configuration and assembly of its components, generally known among or readily accessible to persons within the circles that normally deal with the kind of information in question;
- 2) it has commercial value because it is secret; and

3) it has been subject to reasonable measures under the circumstances, by the person lawfully in control of the information, to keep it secret.

In light of the above, the data on the bids made on the power exchange are considered to be confidential and business secrets and, in the event of disclosure of the bid determining the market price, the bids of generation units made on the basis of marginal costs would become public which may affect the behaviour of other similar generation units on the market.

The obligation to maintain business secrets is also imposed on the Competition Authority under the Public Information Act, pursuant to clause 17 of subsection 1 of § 35 of which the Competition Authority as a holder of information is required to classify information whose disclosure may violate a business secret as information intended for internal use. Pursuant to subsection 2 of § 63 of the Competition Act, an official of the Competition Authority does not have the right without the consent of the undertaking to communicate to other persons or disclose to the public the business secrets of the undertaking which have become known to the Competition Authority in the course of performance of its official duties.