

UKRAINIAN
ENERGY EXCHANGE

УКРАЇНСЬКА
ЕНЕРГЕТИЧНА БІРЖА

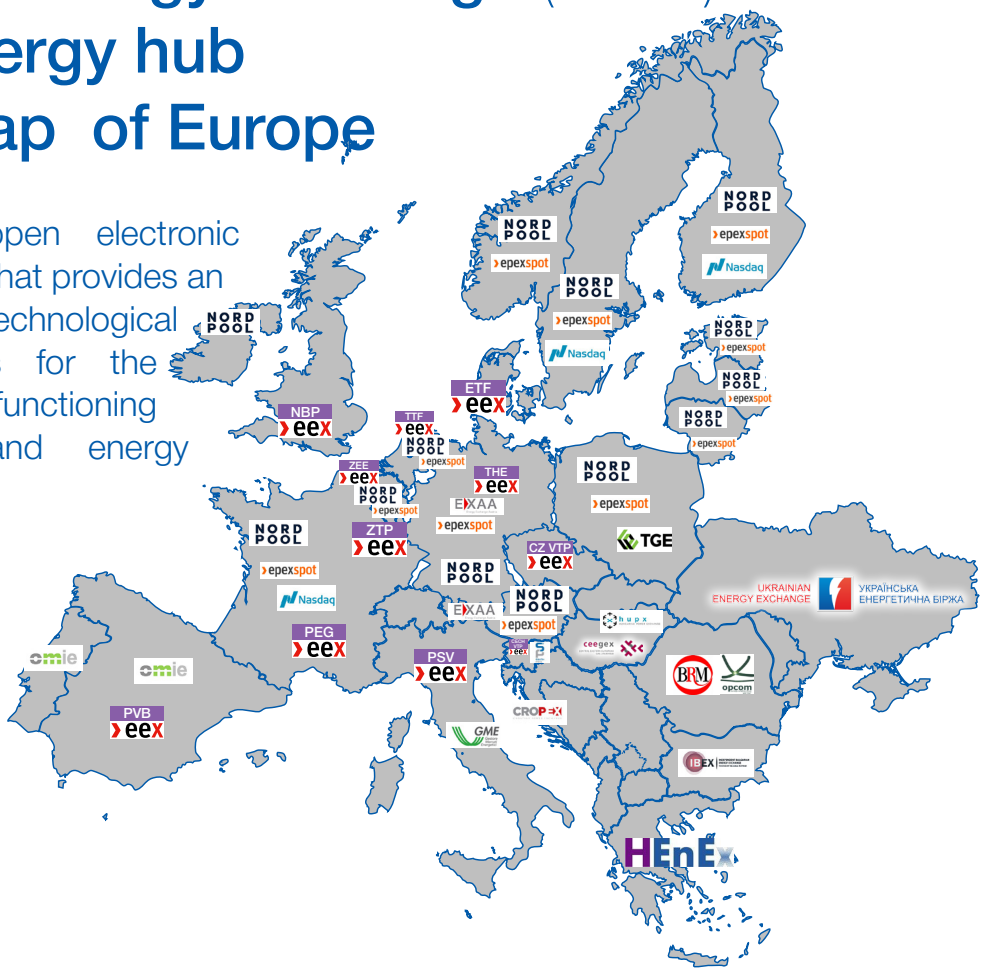
ANNUAL REPORT

UKRAINIAN ENERGY EXCHANGE LLC

2022

Ukrainian energy exchange (UEEX) a new energy hub on the map of Europe

UEEX is an open electronic trading platform that provides an organizational, technological and legal basis for the development and functioning of electricity and energy markets.



WE CREATE MARKET
WE REPRESENT THE MARKET

12 years of activity

11 market segments

Over the past 5 years:

630+
billion UAH
of trading volume

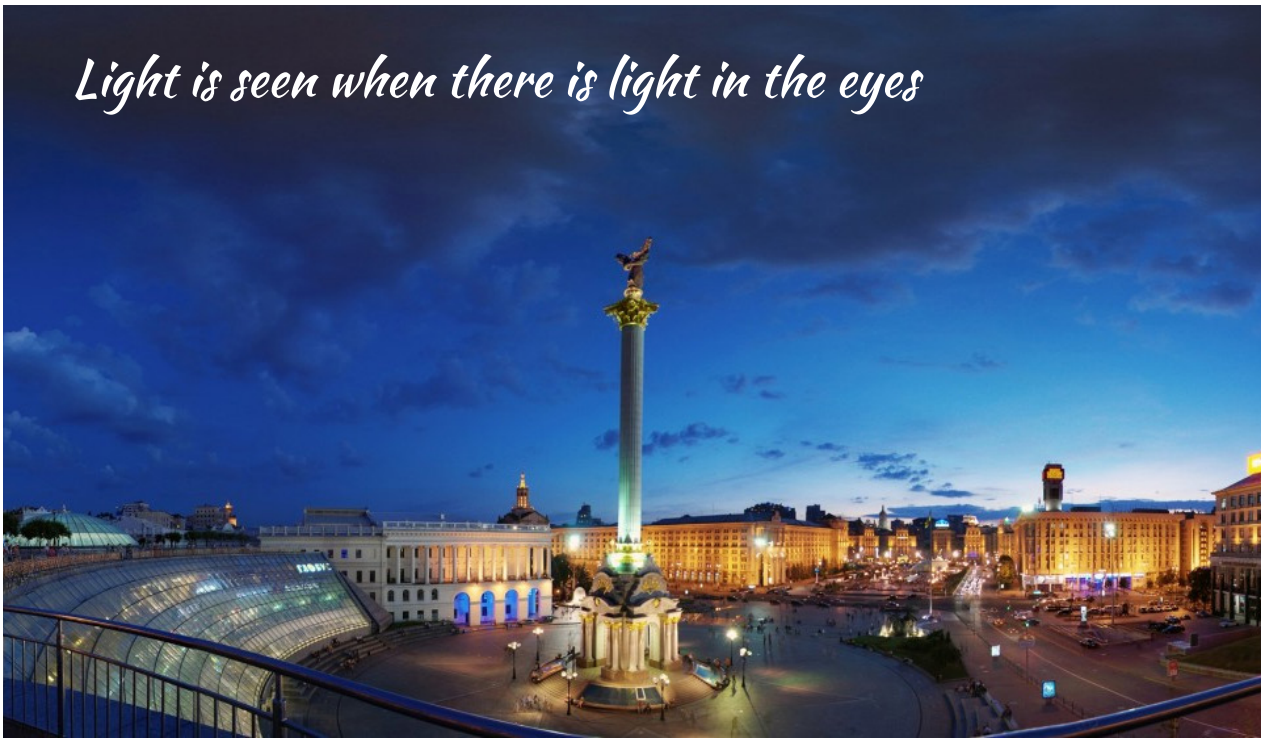
7300+
held
auctions

5000+
participating
companies

UEEX is the leader of exchange trading in Ukraine and the only centralized platform where the largest liquidity and trading of all types of energy resources is concentrated. UEEX is a member of the Europex — Association of European Energy Exchanges.

CONTENT

Address of the management and strategic vision of UEEX 4
Reorientation of the energy markets of Ukraine in connection with the war 8
GENERAL CHARACTERISTICS OF UEEX ACTIVITIES 13
Results of bidding in 2022 13
Key events in 2022 16
The organizational structure 17
UEEX ENERGY RESOURCES MARKETS 18
Electricity 18
Natural gas. 27
Oil and gas condensate. 34
Oil products and liquefied gas 36
OTC operations 39
Untreated timber 41
Prozorro.Sale 47
Deepening international relations on energy markets 49
TRANSPARENCY AND REPORTING. 51
UEEX plans in 2023 53
Charitable initiatives of UEEX 54





Oleksii Dubovskyi

Chairman of the Exchange Committee
Ukrainian Energy Exchange LLC

2022 has become a turning point for each of us. Time was divided into before and after the full-scale invasion of the enemy. The war affected all sectors of the economy. Including exchange trading. But despite all the challenges, we withstood the blow, persevered and continued to work.

From the first days of the invasion, the Ukrainian Energy Exchange maintained operational communication with market participants to ensure stable trading, having previously ensured the observance of safe working conditions for each employee.

The first weeks of the war, trading sessions were held in the areas of «Natural gas», «Liquefied gas», «Oil and gas condensate», «Oil products», and «Untreated timber».

Gradually, the activity increased, sales volume increased.

Our goal today is to stabilize and develop exchange market in Ukraine. For this, we use all our experience, implement new projects, and always take into account the opinion of our partners.

I sincerely thank market participants and partners for their trust and cooperation. Together, we have been developing and improving exchange trading for more than 12 years.

Ukraine will win and take a worthy place among the developed, democratic, advanced countries of the world!



Inna Shcherbyna

Deputy Chairman of the Exchange Committee
Ukrainian Energy Exchange LLC

We have been developing our business for many years, paving the way to imitating the model of the European exchange market, which was our goal. This year gave us awareness of our own strength, power and uniqueness. Common European values and foundations of the democratic world were and will be decisive in the development strategy of UEEX. At the same time, creation of conditions for the revival and strengthening of the Ukrainian market will be our task in the coming year, in order to become a significant part of pan-European trading in the future.

In 2022, we not only managed to keep our powerful team, but also significantly strengthened it. Difficult times required non-trivial solutions, but we managed to demonstrate the high flexibility of all our processes, the high expertise of our employees, technical stability and variability.

On its professional front, throughout 2022, UEEX fought to prevent the enemy from sowing panic and chaos in our markets and destroying the built pillars of their liberalization.

In addition to the struggle for the preservation of the economy of our state in the rear, UEEX continued to help the front and colleagues who stood up for the defense of our independence. Despite all the challenges that we will have to overcome, UEEX has a clear strategic vision of its development as a powerful Ukrainian organized commodity market. Our main task will be ensuring compliance of activities with European integration processes in the state, overcoming crisis phenomena on the markets, post-war recovery with simultaneous implementation of integration with the EU exchange markets.

UEEX demonstrates constant interest and readiness to take leadership in building communities and coalitions of fighters for economic efficiency and detinization of trade activities, green transition and energy independence. Transparent and competitive markets will contribute improving the quality of consumer service and fair market pricing in the future.



Oleksandr Kovalenko

CEO of UEEX LLC

In 2022, the Ukrainian Energy Exchange, despite all the difficulties and challenges of wartime, continued to provide quality service to market participants. We managed to keep the achieved positions for main directions, as well as involve new participants in the bidding.

The year began with a planty of innovations in the natural gas market. Thus, the sale of self-produced natural gas was launched at UEEX, the marginal prices of OGTSU were calculated based on the results of trading on the exchange from January 19, which significantly increased the liquidity of the short-term market. However, the war overturned the rapid trend of increasing trade volumes in this direction.

Also, a two-way continuous auction has been developed and implemented for the participants of the electricity market at UEEX, which provides for the possibility of simultaneous participation of an unlimited number of sellers and buyers.

Last year, the Ukrainian Energy Exchange developed a mechanism for registering over-the-counter contracts, which was first introduced in the oil and liquefied gas market.

The platform of Ukrainian Energy Exchange LLC became the undisputed leader of the Prozorro.Sale system by income level to budgets of different levels. It covered more than 15% of trades.

We are constantly improving, introducing new programs and mechanisms to create the best trading conditions for our clients. We closely cooperate with foreign partners, participate in international projects. I hope that in 2023, the victorious year, public demand for transparent trades with the formation of public indicators for a wide range of energy resources will only grow.

VISION

The Ukrainian Energy Exchange is an operator of the organized commodity market of Ukraine, which ensures liquidity, transparency and fairness in pricing, has integrated national and international markets into a single trading space with guarantees of execution and risk diversification, has full public and international partners trust.

MISSION

Building a reliable, transparent and efficient organized commodity market in Ukraine integrated with organized EU markets in order to maximize common welfare and strengthen energy security and independence.

VALUES

Transparency

Ensure access to transparent markets and ensure trade security through oversight of EU-compliant standards, publication of market information and clearing services.

Partnership

Support of constant dialogue with market participants, authorities, regulators, international organizations for cooperation, exchange of experience and knowledge in order to ensure the sustainable development of the economy.

Professionalism

Maintaining the position of the leading exchange in terms of liquidity and the level of services provided, thanks to the possession of knowledge, competence of employees, technologies, better customer service and a diverse portfolio of products and solutions.

Progress

The fundamental transformation of Ukraine will be ensured through the effective work of everyone. Attracting the best advanced technologies, expertise, and partners, UEEX creates the foundation – an innovative arena for business development in Ukraine, strengthening the economy, and reviving the state.

Patriotism

To support the state's policies regarding the liberalization of markets, increasing energy security, and increasing the investment attractiveness of the economy by creating a reliable market infrastructure and its development in accordance with EU standards.

Reorientation of the energy markets of Ukraine in connection with the war

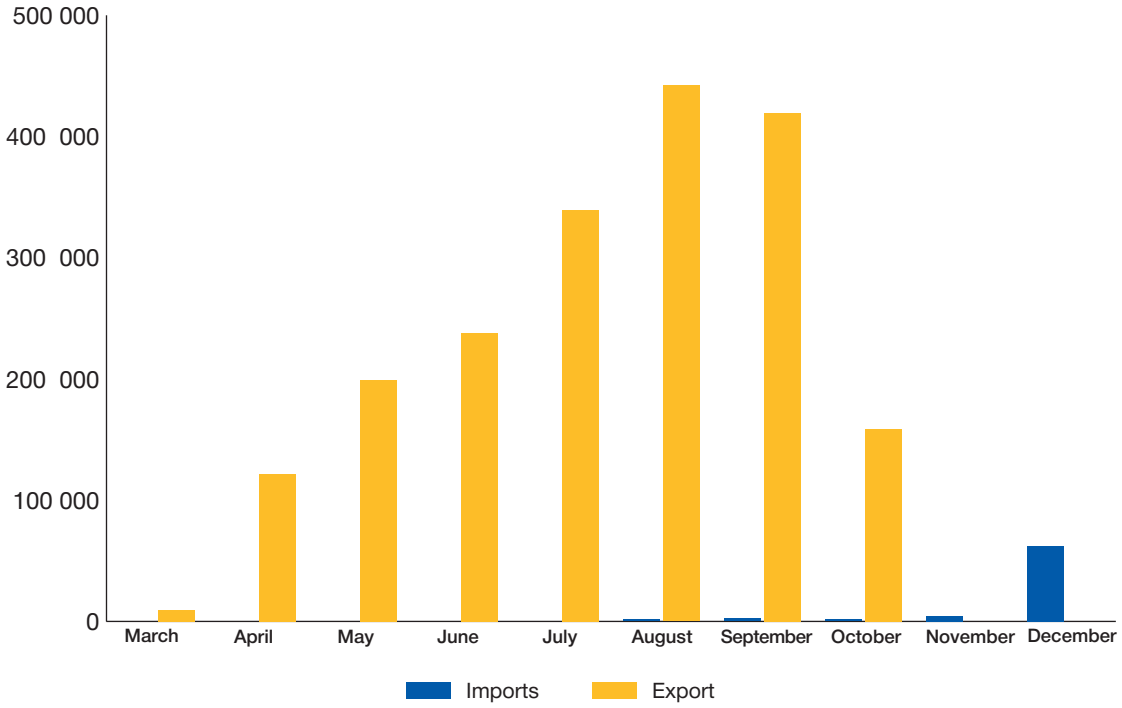
ELECTRICITY

The electricity sector was extremely vulnerable to enemy shelling last year. During the fall of 2022, Russia began regularly shelling Ukraine's energy infrastructure. For example, in December it was reported that half of Ukraine's energy system was disabled due to Russian shelling, and after the shelling on December 16, a state of emergency was introduced in the energy sector. However, operational restoration of damaged objects was constantly taking place. International organizations and national governments sent generators and other aid to Ukraine to restore electricity supply. On December 13, the first energy conference «Rammstein» was held in Paris , where, among other things, USD 1 billion was approved to Ukraine to spend the winter. Blackouts and shelling by Russian troops of energy infrastructure increased the number of Ukrainian refugees by 2%.

Transition of the largest nuclear power plant in Ukraine and Europe – Zaporizhzhia NPP – under temporary occupation.

This regime of the Russians, among other things, was the reason for the appearance of a significant deficit in the IPS of Ukraine in the future. Currently, 8 NPP power units are located in the territory controlled by Ukraine. On March 16, 2022, the synchronization of the energy system of Ukraine with the European energy system began. Ukraine joined the united energy system of continental Europe ENTSO-E a year ahead of schedule. Acceleration of synchronization, preparations for which have been ongoing since 2017, became possible thanks to previously conducted tests. The energy system of Ukraine, being under fire of the Russian occupiers, proved its reliability and stability by working in isolation for 21 days, instead of the allotted 3. Among other advantages, market participants got the opportunity to buy and sell electricity within the ENTSO-E.

The volume of electricity sales in the trade zone «IPS of Ukraine» th. MWh

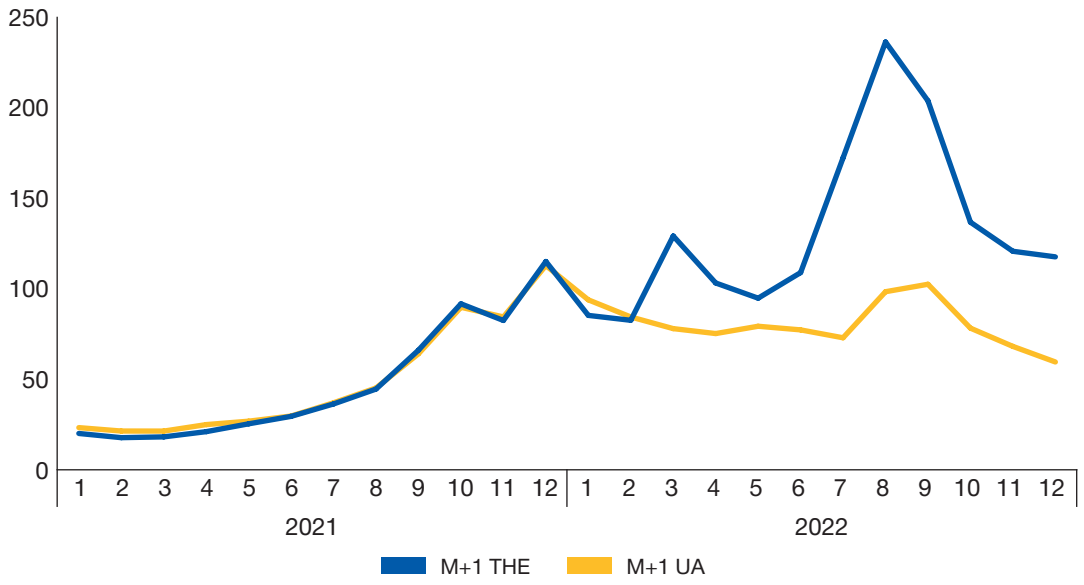


Commercial sales of electricity to EU countries began on June 30, 2022. Access to the capacity of interstate power grids with Moldova, Slovakia, Romania and Poland is provided at auctions of Ukrenergo. In the absence of joint auctions, Hungary banned it implementation of commercial exchange operations with Ukraine. Since October 11, due to shelling of the energy infrastructure, the export of electricity to Europe was prohibited.

GAS

The wholesale market of natural gas underwent fundamental destructive changes during the war. In particular, Naftogaz was entrusted with special duties under which the majority of the supply market fell, which was only expanding until the end of the year. Before that, Naftogaz had already supplied fuel to budget organizations, offering them gas at a «social» price of about UAH 16,000. In addition, the Government transferred to the temporary management of the Naftogaz group shares in 26 regional gas companies, which made Naftogaz a leading company both in the supply segment, and distribution of natural gas.

Price Ukraine - Europe, EUR/MWh



Natural gas prices in Ukraine by consumers category

NAFTOGAZ:

- for the provision of heat and power authority services for the supply of thermal energy and hot water to the population - UAH 7420/th. m^3; budgetary and religious organizations - UAH 16390/th. m^3; for other needs - UAH 38325,5/th. m^3;
- budgetary institutions - UAH 16390/th. m^3;
- for the population – UAH 7956/th. m^3;
- GDS - 7420 UAH/th. m^3 – technological losses; UAH 0,01/th. m^3; overtime costs according to the formula based on the spot prices of Slovakia +;
- non-domestic consumers before April 30, 2023 who perform vital functions – UAH 32000/th. m^3;
- suppliers that meet the conditions - at the price effective on February 24, 2022;
- for hostels – UAH 7420/th. m^3;
- TPP and CHP - UAH 16500/10950/th. m^3 depending on production features.

FREE MARKET:

~ 28000 - 48000 UAH/th. m^3 during the war

During the war, pricing in Ukraine lost its connection to world prices. Due to the export ban, Ukrainian companies could not sell the product, which caused a lack of working capital, and together with the need to pay rent, there was a threat of conservation of private production. Foreign companies even after returning the re-export permit are afraid to keep their gas in Ukrainian UGSs.

During 2022, several changes were made to the pricing of annuity payments, which had a significant

impact on the market. Thus, on March 15, the Verkhovna Rada adopted a law on increasing the rent for gas production during martial law and a state of emergency. The tax base was established as the average arithmetic value between the average customs value of imported gas and the price at the European TTF hub. The law established a differentiated rent depending on three ranges of gas prices – up to USD 150/th. m^3, from 150 to 400 and above USD 400. Later, changes were approved, according to which, starting from April 1 and until the last day of the month in which martial law will be lifted, it is allowed not to pay rent for gas produced but not sold on the market.

Gas production companies so as not to sell at a loss, began to accumulate gas in storage, the budget did not receive taxes, while the companies received only deferrals for their payment. A shortage arose on the market, which provoked an increase in gas prices.

In September, changes were made, according to which the price for an annuity began to be determined as the maximum of the following values:

- weighted average price of gas, which will be supplied by rent payers in the reporting period of the NJSC «Naftogaz of Ukraine» based on the results of purchases on organized commodity markets (exchanges);
- weighted average sales price of gas, which will be supplied by rent payers in the reporting period, based on the results of trades on organized commodity markets from the first to the last day of the month preceding the reporting period (except «Naftogas» and its subsidiaries);
- the price of natural gas, defined as the arithmetic mean of UA VTP Gas price (next month, MaH) from Argus and Icis.

In accordance with these changes, UEEX, as an organized commodity market, reported on the indicators of deals in the «Natural gas» direction every month.

It should also be noted that last year the date of introduction of gas accounting in energy units was once again postponed until May 1, which is after the date of the abolition of martial law.

The consumption of natural gas decreased significantly (by about a third) last year compared to 2021. According to experts calculations, the country consumed about 21 billion m^3 of natural gas during the year. The collapse of gas consumption is directly related to full-scale war. At the same time, gas production decreased significantly less - to 18,5 billion m^3, 6% lower than last year. Of these, 14,2 billion m^3 were extracted by state companies, 4,3 billion m^3 - by private miners. Natural gas reserves in Ukrainian underground gas storage facilities on December 31, 2021 amounted to about 12 billion m^3, which is 1,5 billion less than the same value a year ago. Storage capacity was 39%. Despite the war, UGS managed to accumulate a sufficient amount of natural gas for heating season 2022-2023.

OIL AND GAS CONDENSATE

When the full-scale invasion broke out, it works without stocks. The demand for oil fell due to the lack of refining capacity. The demand for oil products decreased by 30-50% from the pre-war level.

Oil and gas condensate production is gradually increasing after the collapse at the beginning of the war.

In 2022, the production of oil and gas condensate in Ukraine amounted to 2,2 million tons, against 2,415 million tons in 2021. In the structure of production in 2022, 1,5 million tons fell on oil and about 0,7 million t. on gas condensate. On the other hand, 1,754 million tons were mined by state companies, and 0,421 million tons by private companies.

Import of oil products from the aggressor countries was stopped. In addition, Belarus blocked the transit of oil products from Lithuania, which previously ranked third in the volume of supplies to the Ukrainian market. The maximum capacity of rail imports from the four EU countries neighboring Ukraine is estimated at less than 2 million tons per year. Delivery is also carried out by road transport. Import of oil products by sea stopped due to the blockade of the ports by the aggressors.

In the spring of 2022, after a series of missile attacks by the armed forces of the Russian Federation, Kremenchuk Refinery (operator of PJSC Ukrtatnafta) stopped oil processing due to equipment destruction. Other industries, about 40 oil depots, railway supply infrastructure were also destroyed during the war. Missile attacks on oil storage facilities, which have entered into an aggravation phase since the fall, did not allow to accumulate the resource.

Oil demand has fallen significantly. For its processing, the oil refining facilities operating in Ukraine are the so-called mini-refineries, which, according to estimates, can produce about 0,4 million tons of fuel per year.

To support oil refining, the government allowed the production and sale of motor fuels of the Euro-3 and Euro-4 environmental standards in March 2022, reduced VAT from 20% to 7% and canceled the excise tax on fuel, which was returned from September 21 in the amount of EUR100 for oil products and EUR 52 of each thousand liters of liquefied gas.

Although at the end of July 2022, the CMU obliged producers to sell oil, condensate and LPG on the exchange (Government Resolution No. 834 dd. July 26, 2022), buyers, mini-refineries, are trying to operate outside the the regulatory field. The activation of mini-refineries has helped to fill the country's fuel market so that there is no no demand for import.

OIL PRODUCTS AND LPG

With the beginning of the full-scale invasion, Ukraine lost 97% of its foreign supplies of oil products market, as it was dependent on supplies from Russia and Belarus. European market, which at that time was also import-dependent, had to find a fairly significant amount of fuel in a short period of time. Obstacles were also the divergence of European and Ukrainian railway tracks, unpreparedness of transshipments, shortage of car fleet, limited number of Eurocars, few tankers before departure to European oil depots, permits for drivers to leave.

Prices have skyrocketed, and not so much due to world prices, but rather due to speculation on high demand. In March, country imported 60,000 tons of oil products (in pre-war 2021, it purchased an average of 107,000 tons of gasoline per month and 571,000 tons of diesel fuel). In April, fuel imports rose to 191,000 tons. The average wholesale price of diesel fuel and gasoline in May exceeded USD 2,273 USD/t., and liquefied gas - 2400-2500 USD/t. As the result, import of oil products to Ukraine became 380 thousand tons. According to the results of May, the import of oil products to Ukraine amounted to 380,000 tons. Since the beginning of the summer, the balance of supply and demand on the market began to gradually equalize and the market stabilized, reorienting itself towards the countries of the European Union. In August, imports amounted to 709,5 th. tons. In October, due to an increase in the volume of diesel fuel consumed by generators, the market grew by 10%. At the end of the year, oil products were supplied from Poland, Romania, Moldova, Bulgaria, Hungary, Lithuania, and Latvia. In general, according to the results of 2022, 7,3 million tons of oil products were imported into Ukraine, of which the imported LPG resource was about 837,9 th. tons. Today, 95% of imported gasoline and 72% of diesel fuel comes from EU countries.

By the end of the year, the consumption of oil products reached the level of 180,000 to 200,000 tons per month due to the decline in business activity in the country, a seasonal decrease. During 2022, the government took a number of measures to support the fuel market. In April, the rationing of fuel purchases (from 5 to 10 liters) was carried out, when at that time about two-thirds of 7,500 Ukrainian gas stations were closed, and 0,7 million tons of oil products were burned due to the bombing. In the summer, limits were loosened: from 20 to 40 liters were released. Also, the state regulation of fuel prices in retail chains was canceled in May 2022, which had been in effect since May 2021 and was adjusted from time to time (according to the agreement of the government with system operators of the market on not exceeding the price of diesel fuel at gas stations of UAH 58/l and gasoline - UAH 52/l). National fuel producers faced serious difficulties. During the war, the Kremenchuk and Lysichan factories were destroyed. The Kremenchuk refinery managed to supply the market with 264,000 tons of diesel fuel and 258,000 tons of gasoline. After the shutdown of the Kremenchuk Refinery, Ukrnafta's resource remained without processing. The Shebelinsky GPP was stopped. The restoration of domestic oil refining by loading refineries with Ukrainian oil could satisfy the country's own needs for oil products, because the total installed capacity of existing plants is 51 million tons of oil. The perspective of oil refining is the modernization of non-working oil refineries: Odesa, Drohobytskyi, Nadvirnyanskyi and Khersonskyi or the construction of new modern oil refining complexes (ORC) at the expense of foreign investments to finance the post-war revival. Some segments of the market, which are related to the defense of Ukraine or the sowing campaign in Ukraine, did not experience serious problems with fuel shortages. At the end of the year, the fuel situation in the country was stable.

Ahead - victory and large-scale reconstruction of Ukraine.

LOSSES OF THE ENERGY SECTOR DURING THE WAR

As of December, according to experts' calculations, the direct losses of the energy industry during the war amounted to USD 6,8 billion. In addition to the infrastructure damage in the occupied/de-occupied territories, energy facilities in Ukraine were subjected to numerous missile attacks. Part of generating facilities remains in the occupied territories. Among them is Zaporizhzhia NPP, the largest nuclear power plant in Ukraine and Europe, with a capacity of 6 GW.

Large generation facilities in the occupied territories



In March, as a result of shelling by the Russian occupiers, one of the UEEX offices was damaged.



General characteristics of UEEX activities

During the past year, the Ukrainian Energy Exchange held more than 1300 trading sessions in BETS and auctions for the purchase and sale of electricity in BETS in the «Electric Power» version, as well as 4 trading sessions each day were held by the exchange in the short-term natural gas market.

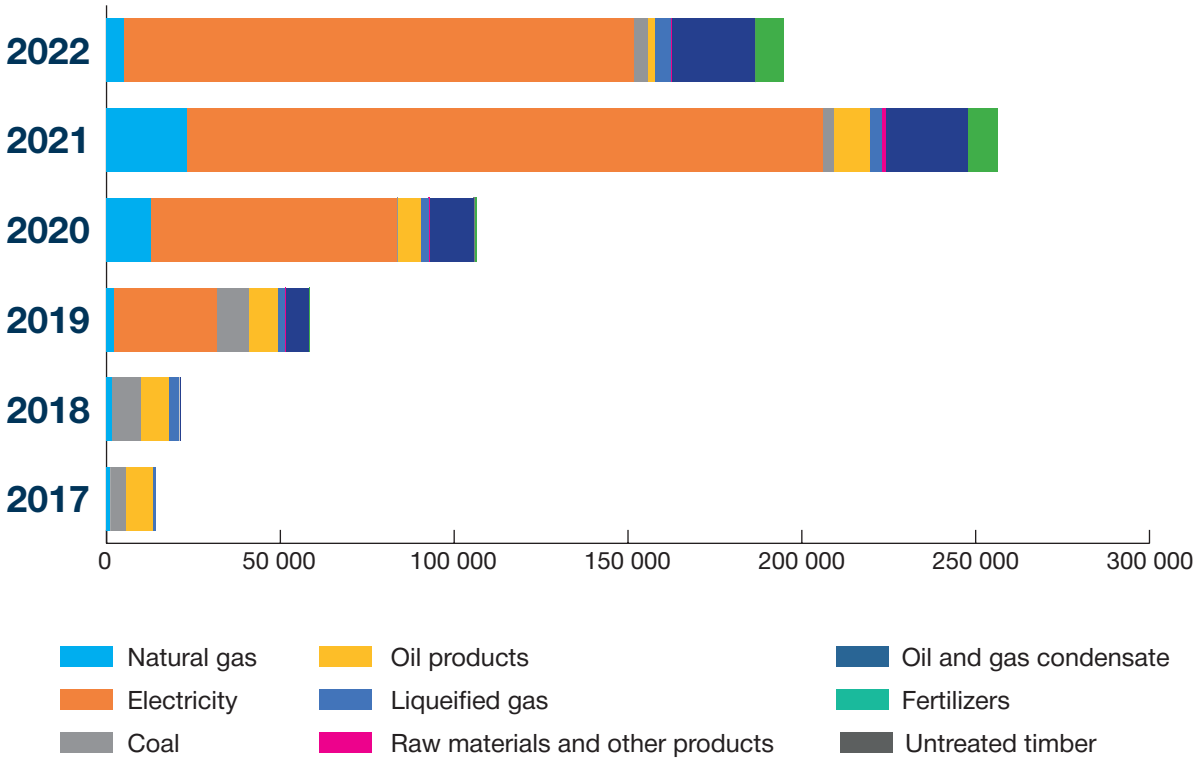
According to their results, 59,2 million MWh of electricity, 1,3 million tons of oil and gas condensate, 187,6 th. tons of liquefied gas and oil products, 167,5 million m³ of natural gas, 710 th. tons of coal were sold.

Indicator	2019	2020	% growth	2021	% growth	2022
Number of trading sessions*	759	1024	↑ 34,91	2270	↑ 121,68	**2760**
Number of participants	1040	1220	↑ 17,31	5374	↑ 340,49	**5413**
Sales of energy resources, UAH billion	58,96	105,92	↑ 79,65	256,41	↑ 142,08	**194,98**

* in the form of a unilateral auction

About 2000 auctions were held under the direction of «Untreated timber and lumber». The total sales volume was 2,98 million m³.

In general, during the past year, in energy and electricity resources trade about 8000 exchange certificates were concluded. 815 agreements were concluded (and executed) on the short-term natural gas market. In addition, more than 15700 contracts for the purchase and sale of wood were concluded.



PARTICIPANTS OF THE UEEX EXCHANGE MARKET



ELECTRICITY
500



NATURAL GAS
388



COAL
44



LIQUEFIED GAS
242



OIL PRODUCTS
146



OIL AND GAS CONDENSATE
129



UNTREATED TIMBER
4208



RAW MATERIALS AND OTHER PRODUCTS
21



MINERAL FERTILIZES
18

Among the participants of bidding and auctions are the following companies:











































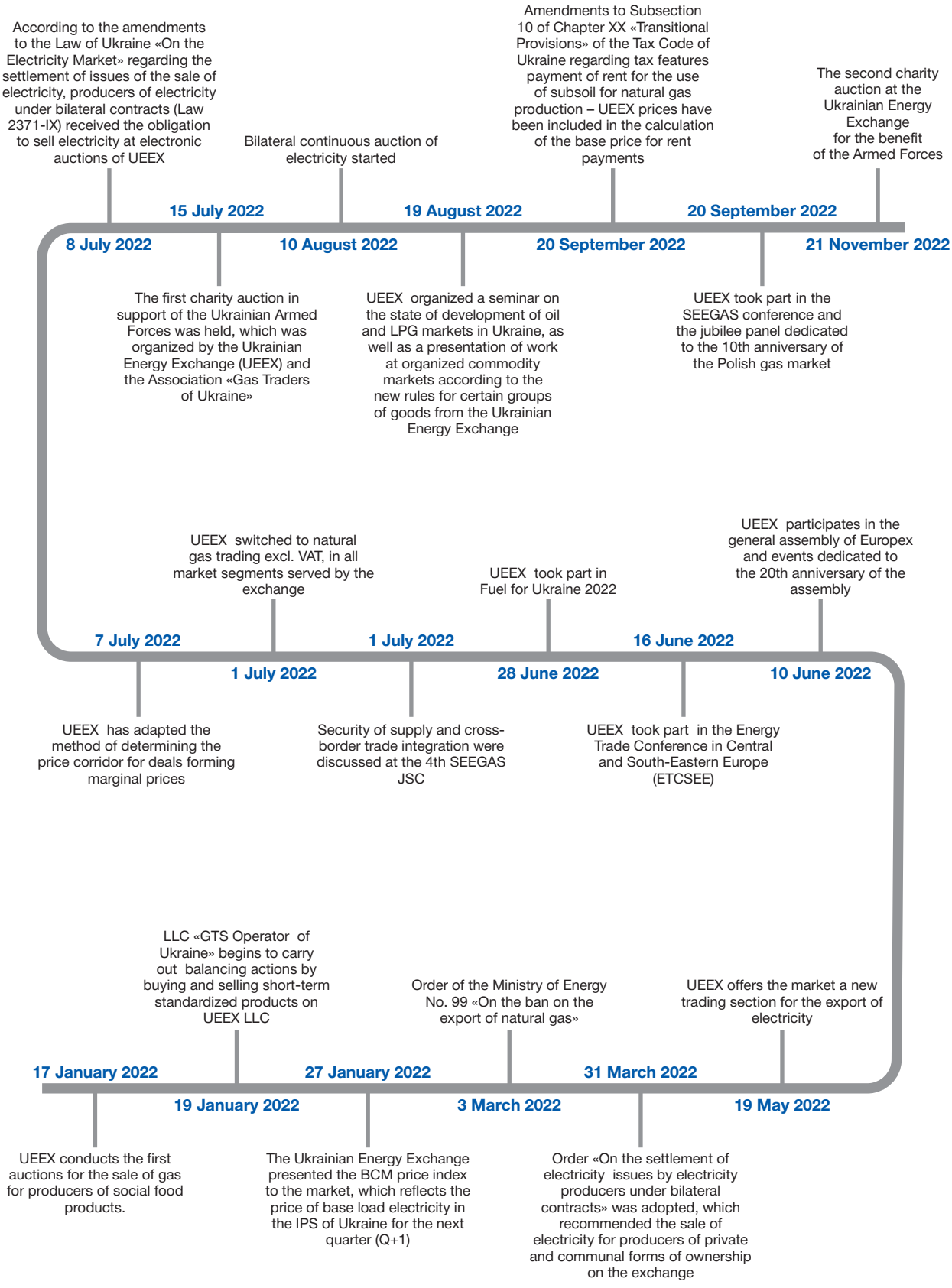




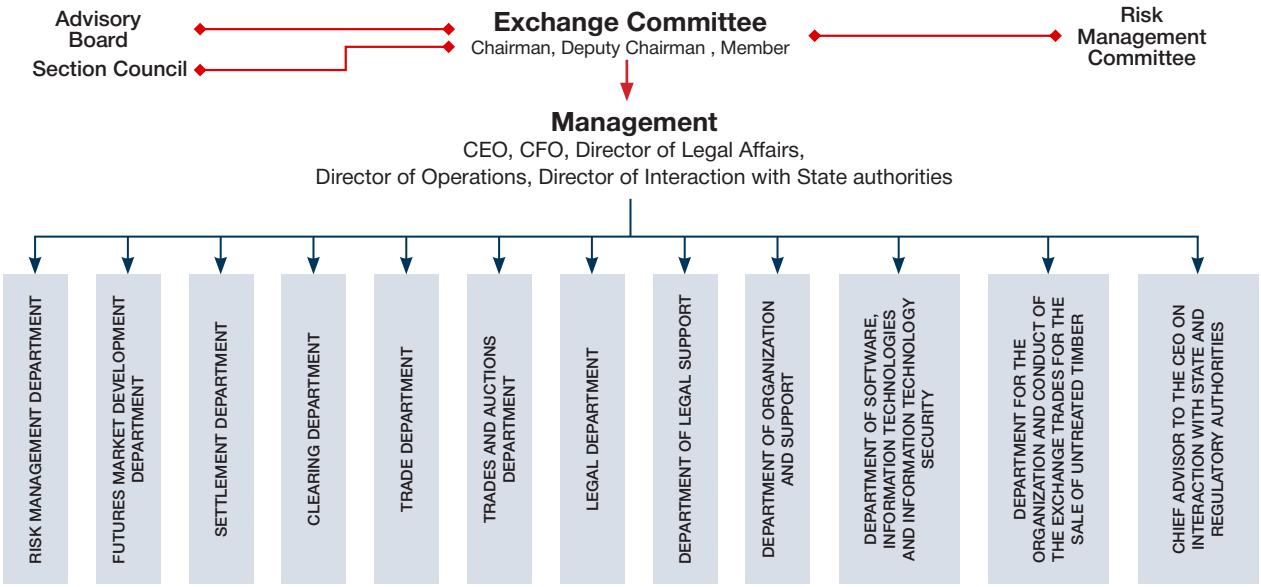




KEY EVENTS IN 2022



ORGANIZATIONAL STRUCTURE





The highest governing body of UEEX is the General Meetings. The Exchange Committee manages the exchange in the period between General Meetings. The executive directorate carries out operational management. Such an organizational structure places high demands on the management team, therefore UEEX pays considerable attention to the professional development of employees, promotes the acquisition of new knowledge and experience.

The Advisory Board is a collegial authority of the Exchange, the purpose of which is to develop an operation strategy, provide proposals and consultations on increasing the efficiency of the Exchange and development in accordance with European standards, promoting the strengthening of international cooperation to ensure transparency and competition of the Ukrainian market, with the ultimate goal - receiving benefits by Ukrainian consumers.

Currently, the Section Council operate in directions, among the tasks of which are cooperation with exchange on issues of organization and development of exchange trading and other services of the exchange, promoting of consideration the opinion of the Section Council by state authorities during the formation and implementation of state policy in the energy industry, in the sphere of exchange trading, clearing and settlement activities, etc., preparation of joint events and discussions on topical issues of energy industry development.

ADVISORY BOARD OF UEEX



Gregor Weinzettel
Gas Market Expert,
Energy Community
Secretariat



Giuseppe Grimaldi
Associate Director -
Senior Economist at EBRD



Maksym Nemchynov
Expert of the energy market
of Ukraine with many
years of experience in
government positions



ELECTRICITY

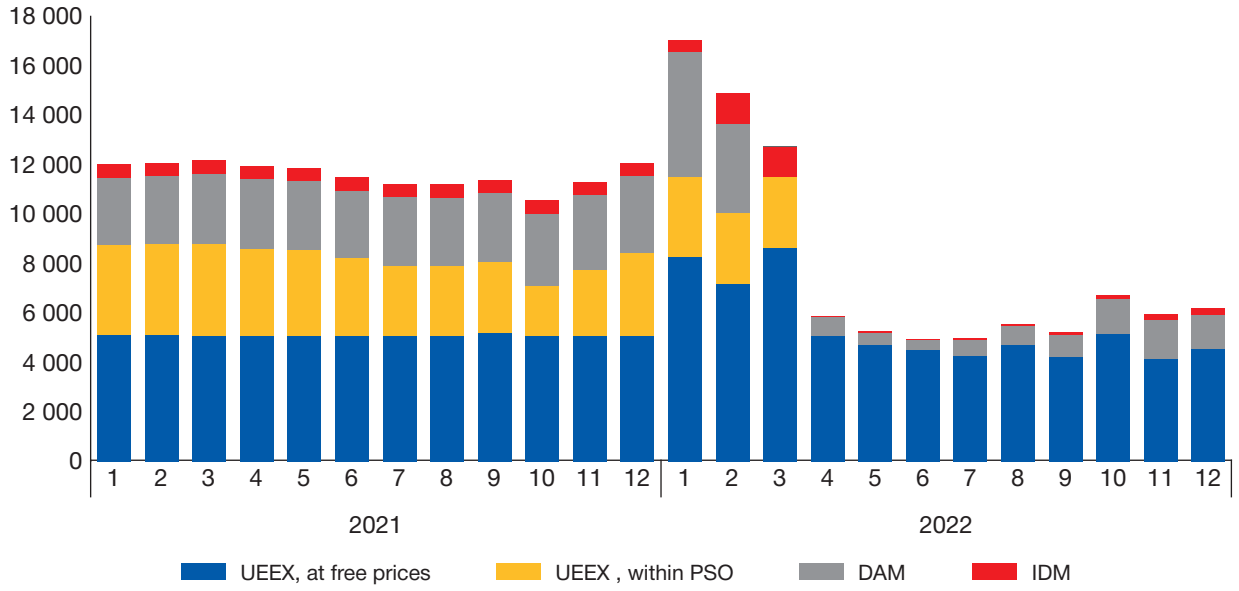
ELECTRICITY

In 2022, the Ukrainian energy industry faced a list of new challenges, even more threatening challenges, such as nuclear terrorism with the seizure of nuclear power plants, and numerous damage to critical infrastructure - electrical networks.

Obligations for the sale of electricity at the UEEX for the periods of supply in the same period from the SE "Market Operator" (DAM, IDM) are shown in the graph below.

The share of sales on the BCM has changed significantly in terms of sales of electricity on the short-term markets. It should be noted that in Ukraine in 2022, 17% of the total volume of sales on the electricity market was sold on the IDM, 2% on the intraday market, and 80% under bilateral contracts.

The volume of electricity sales in the trade zone IPS of Ukraine, th. MWh



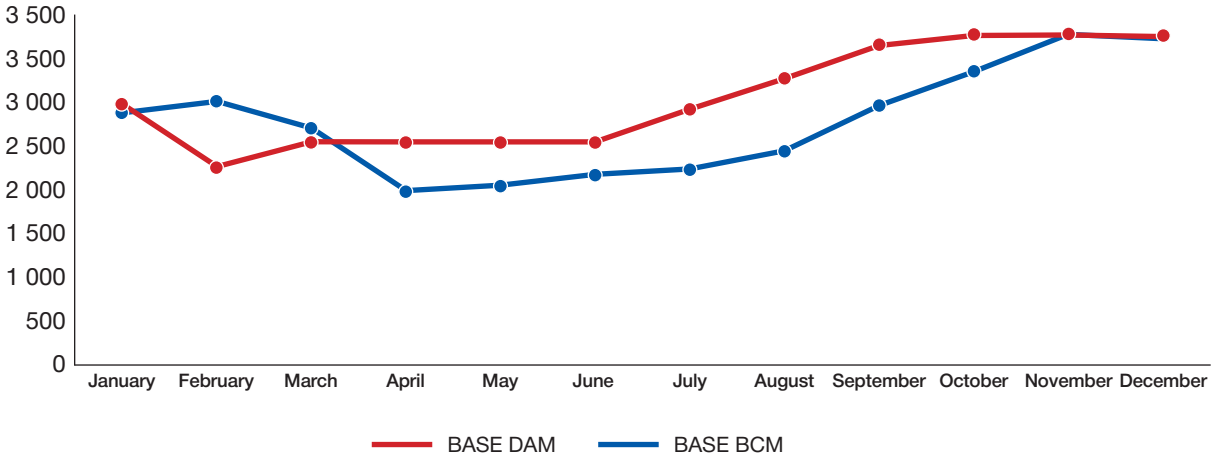
PRICE CAPS

In order to contain the sharp rise in the price of electricity, NEURC has established the following price caps for DAM and IDM.

Chronology of raising price caps for 2022. On February 25, 2022 marginal prices level has been established at the level of 2646,25 - 4000 UAH/MWh – in hours of maximum load, in hours of minimum load 1378,97 – 2000 UAH/MWh.

Limit price level for IDM: not less than the value of 102% of the price of DAM in the relevant period.

Comparison of the basic load indices of DAM and BCM



Art. 66 of the Law of Ukraine «On the Electricity Market» stipulates the obligation of producers (except for electricity producers who have a «green» tariff and electricity producers who have acquired the right to support as a result of the auction) to sell electricity under bilateral contracts at electronic auctions, the procedure for which is approved by the Cabinet of Ministers of Ukraine, Resolution No. 499 of June 5, 2019, (hereinafter - Procedure No. 499).

The Ukrainian Energy Exchange in 2019 received the right to conduct such auctions for the sale of electricity on the bilateral contracts market (hereinafter - BCM) in accordance with the results of the competitive selection in accordance with the Procedure for the selection of organizers of electronic auctions for the sale of electricity under bilateral contracts.

Order No. 499 provides for the functioning of the Auction Committee, which includes representatives of the Ministry of Energy, NEURC, the Ministry of Economy, AMCU and state sellers of electricity. The Exchange can conduct such auctions for the sale of electricity by producers on the BCM exclusively and within the limits of the rules established by Order No. 499. The moments of conducting auctions, which are not regulated by the Procedure, are defined in the regulations of the exchange, which are approved by the Auction Committee. In addition, the Auction Committee monitors the auctions conduction regarding compliance by the auction participants and the exchange with the regulations, develops and provides the exchange with recommendations on measures aimed at supporting fair competition, determines the forms and technologies of the auction, etc.

MARKET SEGMENT				REGULATED PRICES SEGMENT	FOREIGN-ECONOMIC BILATERAL CONTRACTS
Auctions for the implementation of clause 6 part 2. Art. 66 of the Law	Special session for the sale of electricity produced from alternative energy sources	A special session on the sale of lot packages	Commercial section	Auctions for the implementation of Article 62 of the Law (PSO) Special session	Special session on the sale of electricity for further export
PARTICIPANTS - SELLERS					
State, communal, private producers (Centrenergo, Ukrhydroenergo, Energoatom, others, on a voluntary basis).	Guaranteed Buyer	State, communal, private manufacturers Other sellers, on a voluntary basis	In accordance to the Regulations of UEEX LLC - Electricity suppliers, traders	State producers who are entrusted with special obligations – Energoatom, Ukrhydroenergo	State, communal, private producers. Other sellers and traders.
PARTICIPANTS – BUYERS					
Electricity suppliers Traders Consumers TSO DSO Guaranteed Buyer	Electricity suppliers Traders Consumers TSO DSO	Legal entities, 100 percent of whose shares belong to the state. Licensees for railway transportation	Guaranteed Buyer of TSO DSO Electricity suppliers Traders Consumers Other wholesale market participants	Universal service providers DSO	Non-residents

Trade operations for the purchase and sale of electricity at the Ukrainian Energy Exchange LLC are carried out in accordance with the Normative Documents of the exchange in the following sections:

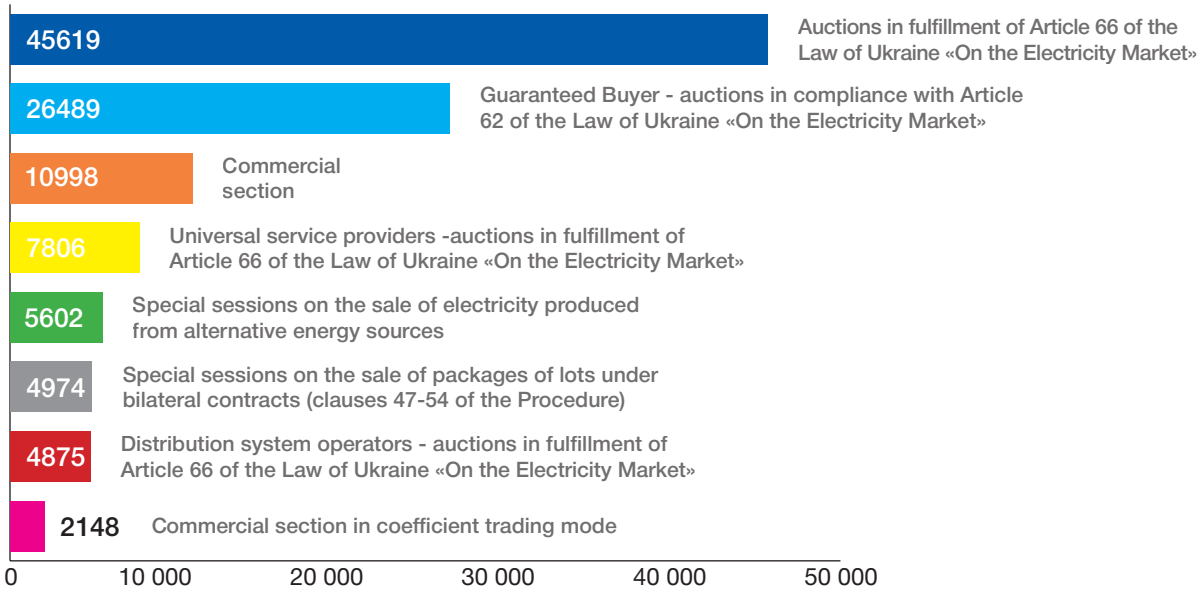
- Specialized sections
- Commercial sections

SPECIALIZED SECTIONS	COMMERCIAL SECTIONS
The «Exchange Electronic Trading System» software product in the «Electric Power» version is used	
Only the seller has the right to initiate the organization and conduct of the auction. The number of sellers and buyers in one auction is not limited	The seller and the buyer have the right to initiate the organization and conduct of the auction. The number of sellers and buyers in one auction is not limited
The sample form of the BC for the purchase and sale of electricity is approved by the Auction Committee	Bilateral contract of sale in arbitrary form
A general account is in place to guarantee the fulfillment of obligations	

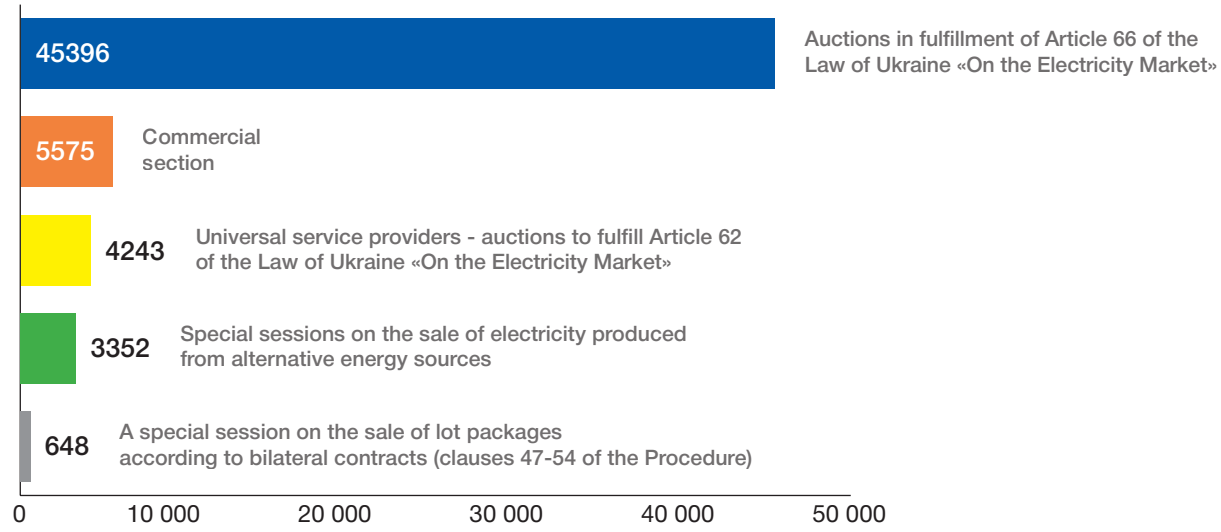
Auction process:

- **Posting a position**
- **Registration of applications for participation in the auction** - from the moment the session is created until the end of the trading period
- **Trades:**
  - The main period - ends no later than 1 hour after the beginning of the trading period (no later than 6 p.m.).
  - Additional period - ends no later than 1 hour after the start of the additional period (no later than 6 p.m.).
- **Signing of certificates**

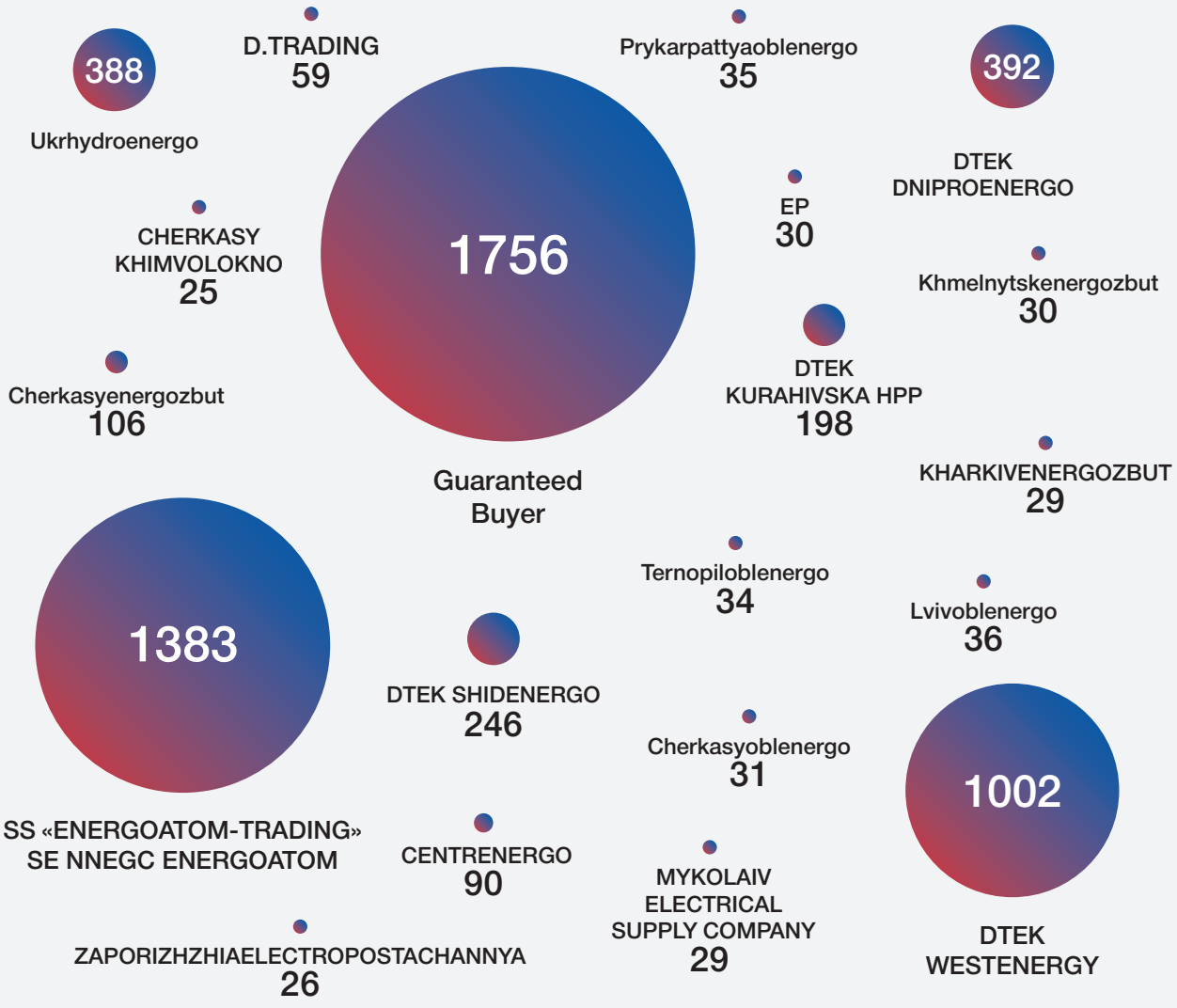
Volumes of purchase and sale of electricity at UEEX, th. MWh for 2021



Volumes of purchase and sale of electricity at UEEX, th. MWh for 2022



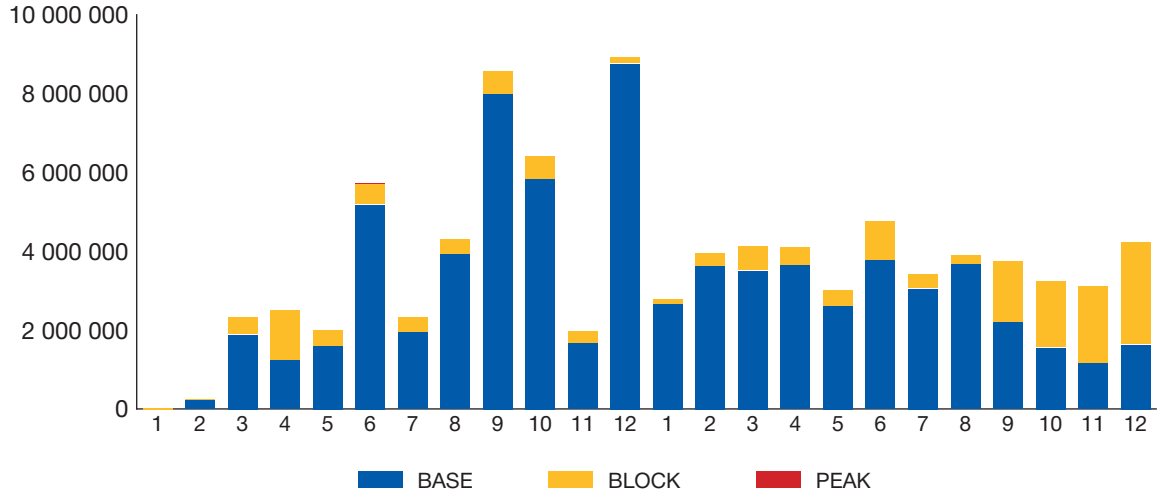
Top 20 companies by the number of starting positions



AUCTIONS FOR IMPLEMENTATION OF ARTICLE 66

In general, for the 2022 at UEEX, at auctions in compliance with Article 66 of the Law of Ukraine «On the Electricity Market" (from electricity sales by producers) 45,396 million MWh were sold.

Sales volumes by types of electricity schedules at UEEX, MWh



Months	Volume, MWh
January, 2022	3 678 888
February, 2022	3 967 436
March, 2022	4 129 560
April, 2022	4 098 224
May, 2022	3 032 462
June, 2022	4 769 572
July, 2022	3 431 623
August, 2022	3 926 458
September, 2022	3 768 340
October, 2022	3 244 730
November, 2022	3 112 532
December, 2022	4 235 717
In total	45 395 542

From September 1, 2021 to April 1, 2022 in accordance with the Law of Ukraine dd. July 14, 2021 «On measures aimed at overcoming crisis phenomena and ensuring financial stability in the natural gas market». In order to ensure transparency and equal conditions for producers of state electricity, the obligation to sell electricity under bilateral contracts through an auction in accordance with Order No. 499 was extended to producers of communal and private forms of ownership. The term was extended to April 1, 2023 by Law No. 2479-IX dd. July 29, 2022. From April 1, 2022 to July 7, 2022, the Ministry of Energy of Ukraine adopted the Decree «On the settlement of electricity issues by electricity producers under bilateral contracts», which recommended the sale of electricity for producers of private and communal forms of ownership on the Exchange. From July 8, 2022, in accordance with the amendments to the Law of Ukraine «On the Electricity Market» regarding the regulation of the sale of electricity to electricity producers under bilateral contracts (Law 2371-IX), UEEX received an obligation to sell electricity at electronic auctions.

BY PRODUCERS OF PRIVATE FORM OF PROPERTY
* in July 1 2022

CONDUCTED
116
ELECTRONIC AUCTIONS

SOLD
14,21
MILLION MWH OF ELECTRICITY

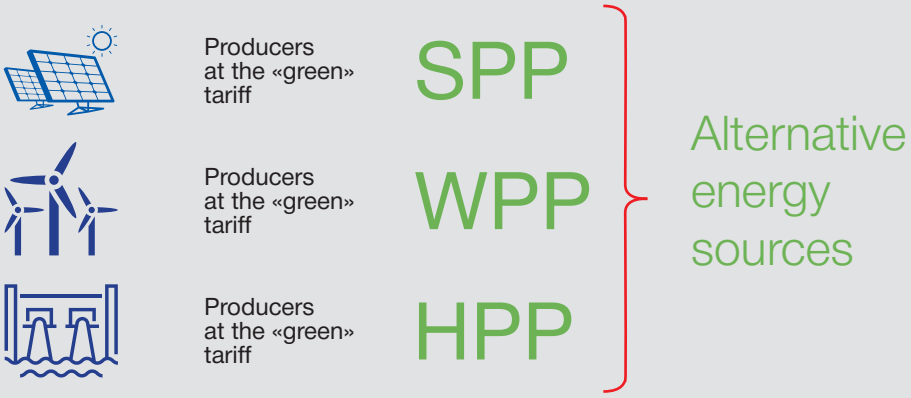
Thus, 116 auctions were held and 14.21 million MWh of electricity were sold by privately-owned producers (except for those producers with a «green» tariff and electricity producers who acquired the right to support as a result of the auction).

AUCTIONS IN THE FORM OF SPECIAL SESSIONS ON THE SALE OF ELECTRICITY, PRODUCED FROM ALTERNATIVE SOURCES OF ENERGY

On September 28, 2020, the Cabinet of Ministers adopted a resolution «On Amendments to the Procedure for Conducting Electronic Auctions for the Sale of Electricity Under Bilateral Contracts». Accordingly, electricity that is produced from alternative energy sources, according to bilateral contracts, is sold at special sessions of specialized auctions of UEEX. The starting price is determined by the Guaranteed Buyer according to the special form established by Procedure No. 499 which takes into account the weighted average price and volume of sales in the wholesale market segments for each trading hour and the number of calculation periods of the product within one trading day.

Pursuant to Clause 6-1 of Part 2 of Article 66 of the Law of Ukraine «On the Electricity Market», 108 such auctions were held by the Guaranteed Buyer for 2022, the volume of sales amounted to 3351,99 th. MWh, which is 40% less than the same period last year.

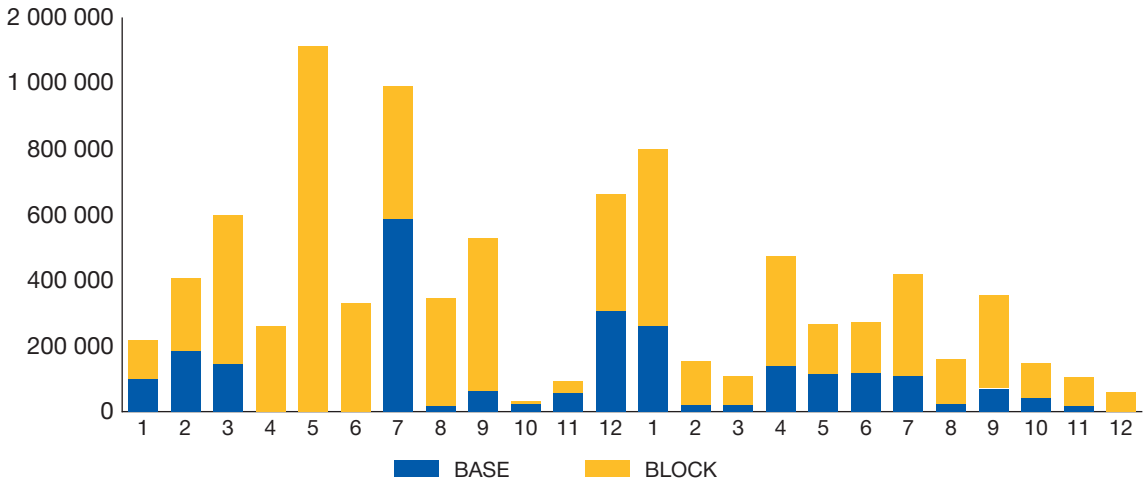
GUARANTEED BUYER BALANCING GROUP



Auctions are held to increase the price. The starting price is determined by the Guaranteed Buyer according to a special formula:

$$Ц^{P\,sp} = \frac{\sum_{t^{st}}^{t^{fn}} \left(\frac{\sum_{t}^{m} \left(B^{DAM} + B^{IDM} + B^{EI} + B^{BC} \right)}{\sum_{t}^{m} \left(O^{DAM} + O^{IDM} + O^{EI} + O^{BC} \right)} \right)}{N^{t}}, \text{UAH/MWh}$$

Sales volumes by types of schedules of electricity produced from alternative energy sources at UEEX, MWh.



Months	Volume, MWh
January, 2022	801 847
February, 2022	157 362
March, 2022	111 360
April, 2022	477 534
May, 2022	268 910
June, 2022	275 806
July, 2022	421 659
August, 2022	161 765
September, 2022	355 936
October, 2022	150 650
November, 2022	108 180
December, 2022	60 980
In total	3 351 989

SPECIAL SESSIONS ON THE SALE OF LOT PACKAGES

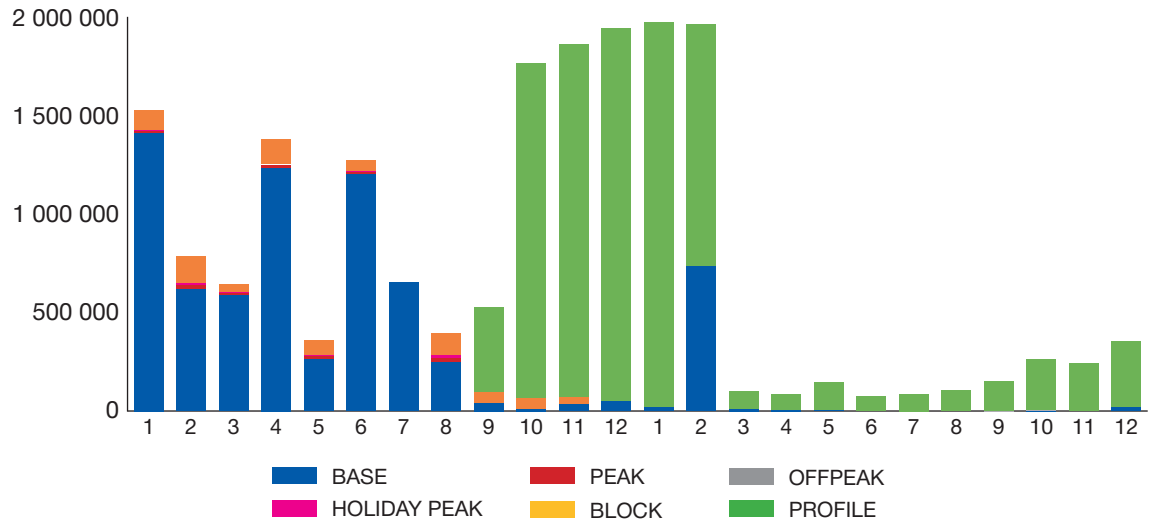
From September 2021, in accordance with Order No. 499, JSC «Ukrzaliznytsia» was given the opportunity to purchase electricity at UEEX in indivisible packages 25 lots with delivery term up to 36 months.

Indicators	2021	2022
Volume, MWh	4 936 050	647 700
Number of auctions	1	1
Type of sales schedule	BASE	BASE
Release period	01.10.2021 – 31.12.2022	01.01.2023 – 31.03.2023

COMMERCIAL SECTION

In order for traders, DSO, USP (to meet the needs of non-household consumers) could centrally carry out electricity trade under bilateral contracts, and buyers could also initiate auctions, a commercial section for the purchase and sale of electricity was created at UEEX under bilateral contracts. Auctions in this section are held in accordance with the «Regulations for the organization and conduct of electronic auctions for the purchase and sale of electricity under bilateral contracts in the commercial sections of the Ukrainian Energy Exchange. In general, for the year 2022, in the commercial sections, the total volume of purchase and sale of electricity amounted to 5,57 million MWh.

Months	Volume, MWh
January, 2022	1 974 284,46
February, 2022	1 965 139,98
March, 2022	106 118,84
April, 2022	86 844,66
May, 2022	147 712,97
June, 2022	76 500,21
July, 2022	89 641,45
August, 2022	108 347,52
September, 2022	153 676,16
October, 2022	265 700,77
November, 2022	244 431,55
December, 2022	356 483,55
In total	5 574 882,12



AUCTIONS FOR IMPLEMENTATION OF ARTICLE 62

In 2021, PSO was changed from a commodity to a financial model. On October 1, 2021, the financial model of PSO came into effect. The sellers at such auctions are: electricity producers with the relevant responsibilities (SE NNEGC Energoatom and PJSC Ukrhydroenergo). Sample electricity purchase and sale agreements with the USPs and DSOs have been approved by the Auction Committee. In 2022, 4,24 million MWh of special obligation load electricity was sold on the Ukrainian Energy Exchange under the PSO. The last auction took place on January 14, 2022.

Since the beginning of the war, in accordance with the Decree of the President of Ukraine No. 64/2022 dd. February 24, 2022 «On the Introduction of Martial Law in Ukraine», approved by the Law of Ukraine No. 2102-IX dd. February 24, 2022, the legal regime of martial law was introduced in Ukraine. Information that is publicly available can be used by Russian Federation, so to preserve the interests of the state, electricity under the PSO was sold off the exchange. In accordance with the provisions of the Procedure of the Ministry of Energy dd. 21.03.2022 No. 132 «On ensuring the purchase and sale of electricity by universal service providers in a special period».

BILATERAL CONTINUOUS AUCTION

On July 25, 2022, the Auction Committee approved the Regulations for organizing and conducting electronic auctions for BC using the bilateral continuous auction technology at the Ukrainian Energy Exchange. The schedule of such auctions was approved: every Wednesday starting from August 10, 2022.

Such an auction involves trading in standardized products, where sellers and buyers place their standardized bids and conclude transactions through matching.

Sellers at such auctions are:

- electricity producers - state-owned enterprises, as well as business companies in which the state holds 50 percent or more of the authorized capital, business companies in which 50 percent or more of the authorized capital belongs to other business companies in which the state is a shareholder and holds a controlling stake, subsidiaries, representative offices and branches of such enterprises and companies, municipal unitary enterprises, legal entities in whose authorized capital 50 percent or more of the shares (stakes) belong to a municipal enterprise or a territorial community, subsidiaries of such enterprises or legal entities;
- privately owned electricity producers (except for those producers that have been granted a green tariff and electricity producers that have acquired the right to support based on the results of the auction).

Buyers at the auction are electricity market participants who intend to purchase electricity in accordance with the terms of the auction and are not limited by applicable laws and regulations.

A SPECIAL SECTION FOR THE SALE OF ELECTRICITY FOR FURTHER EXPORT

On June 21, 2022, Exchange Committee approved the Rugulations for organizing and conducting an electronic auctions for the purchase and sale of electricity for further export on the UEEX commodity exchange. Ukraine started operating in a power grid synchronized with continental Europe, which allowed export of electricity to Europe.

Since, by its legal nature, the electricity purchase and sale agreement concluded with the participation of a producer and a registered participant, and the subject of which is the export of electricity, is identical to a bilateral purchase and sale contract, the conclusion of which is provided for by the provisions of part two of Article 66 of the Law, which defines the method of its conclusion is participation in electronic auctions in accordance with the procedure established by law. Ukrainian Energy Exchange has developed a special section for the sale of electricity for further export.

Sellers at such auctions are: any electricity market participants who intend to sell electricity in accordance with the terms of the auction, except for electricity market participants who are limited by applicable law.

Buyers at such auctions are non-resident legal entities that intend to purchase electricity in accordance with the terms of the auction.



NATURAL GAS

Natural gas trade at UEEX – 2022 results

2022 was full of innovations in the Natural Gas sector. Starting from January 17 and during the February, UEEX held the auction for the sale of gas of own production in accordance with the Resolution of the Cabinet of Ministers of Ukraine No. 19 dd. 12.01.2022 «On approval of the procedure for organizing and conducting Exchange trading for the sale of natural gas of own production to meet the needs of business entities whose main activity is the production of food products of significant social importance».

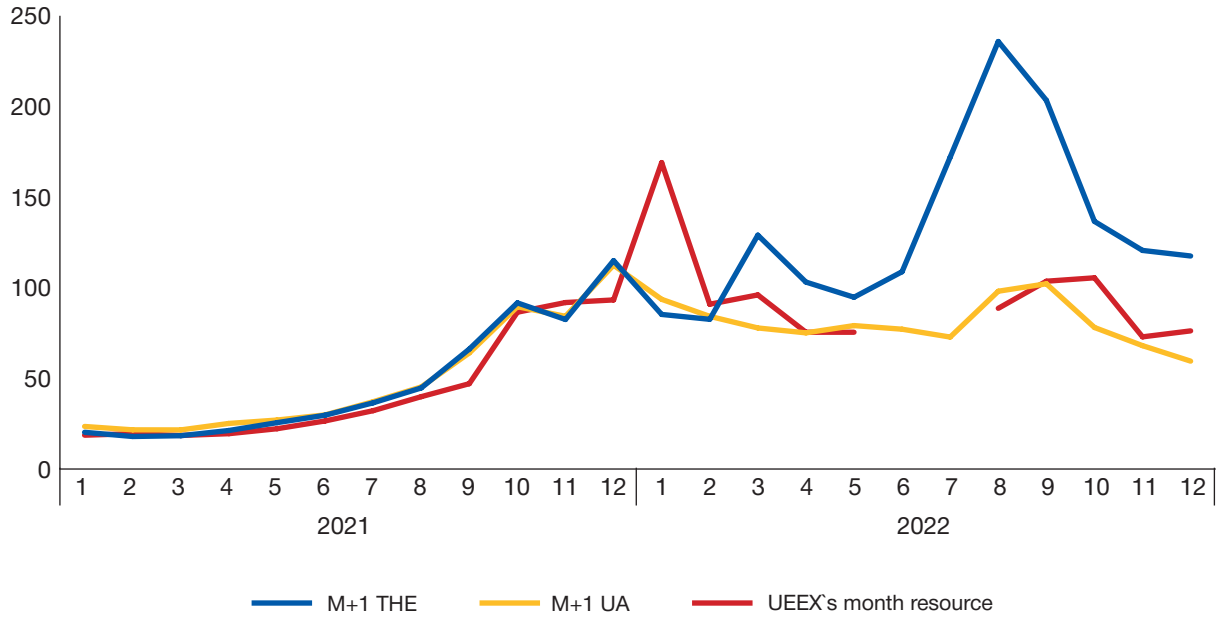
Starting from January 2022, NEURC agreed to use the indicators of UEEX trading platform to calculate the payment for gas imbalances in accordance with paragraph 9 of Chapter 6 of Section XIV of the GTS Code.

Starting from January 19, 2022, the GTS Operator of Ukraine LLC will start balancing activities by purchase and sale of short-term standardized products on UEEX. Market participants welcomed such a balancing mechanism, which the market has long sought and which, in accordance with European practice, is the target for pricing imbalance charges. European practice suggests that trading in short-term standardized products on the exchange is the main method for balancing the GTS, and the purchase of balancing services is used by gas transmission system operators as an auxiliary mechanism.

Together with the gas storage operator JSC Ukrtransgaz, UEEX organized a hub for exchange trading in natural gas in UGS facilities, including gas stored by non-residents in the customs warehouse mode. Such a mechanism could become an important element in the recovery of the Ukrainian gas market in the post-war period, as it allows non-residents to trade gas in Ukraine rather than re-export it from Ukrainian gas storage facilities. Responding to market participants' requests, starting from July 1, UEEX made changes to the functionality of its trading systems in the Natural Gas sector, aimed at displaying the price and value of the product excl. VAT. From now on, the price of the exchange's wholesale market, which is represented by the long-term, medium-term and short-term natural gas market of the UEEX, will be more in line with the established international practices, according to which the wholesale energy market is traded without taking into account taxes.

In September, in accordance with the amendments to the Tax Code of Ukraine, prices based on the results of trading on UEEX were included in the price calculation formula for determining the rent fee for the use of subsoil for natural gas production. This shows that despite the decline in bidding activity in 2022, UEEX indicator remains a representative and stable price characteristic of the situation on the Ukrainian wholesale natural gas market in general, while European prices are more volatile.

Price comparison, euro/MWh



MIDDLE- AND LONG-TERM MARKET

Last year, in PP BETS 77,38 million m³ of natural gas were sold, including 25,66 million m³ were sold in the section «Natural gas of own production». The company held 231 trading sessions, in which 1602 starting positions for the purchase and sale of the resource were formed. For comparison, 333 trading sessions were held in 2021, and 259 in 2020.

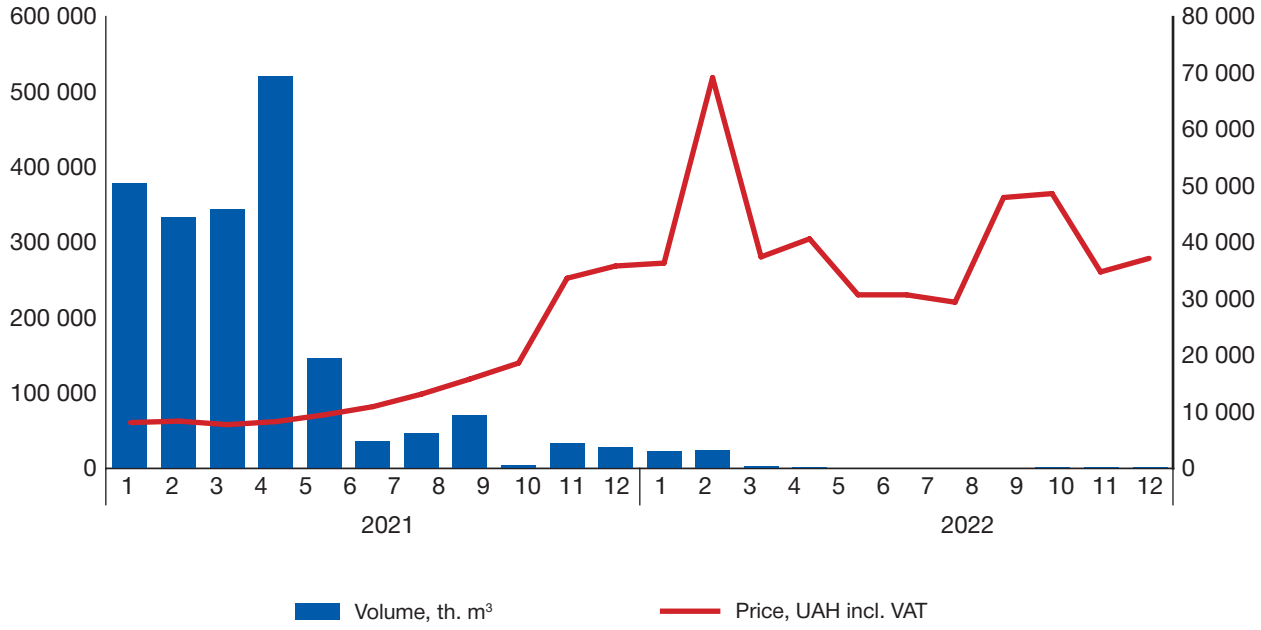
As of the end of the year, 388 companies were accredited to trade in natural gas. In total, 718 exchange certificates were concluded on the UEEX medium and long-term market during the year.

The initiators of the trades were 95 companies, 39 of which were producers companies that sold natural gas of their own production in a special section. Some of these companies also participated in trading at unregulated prices.

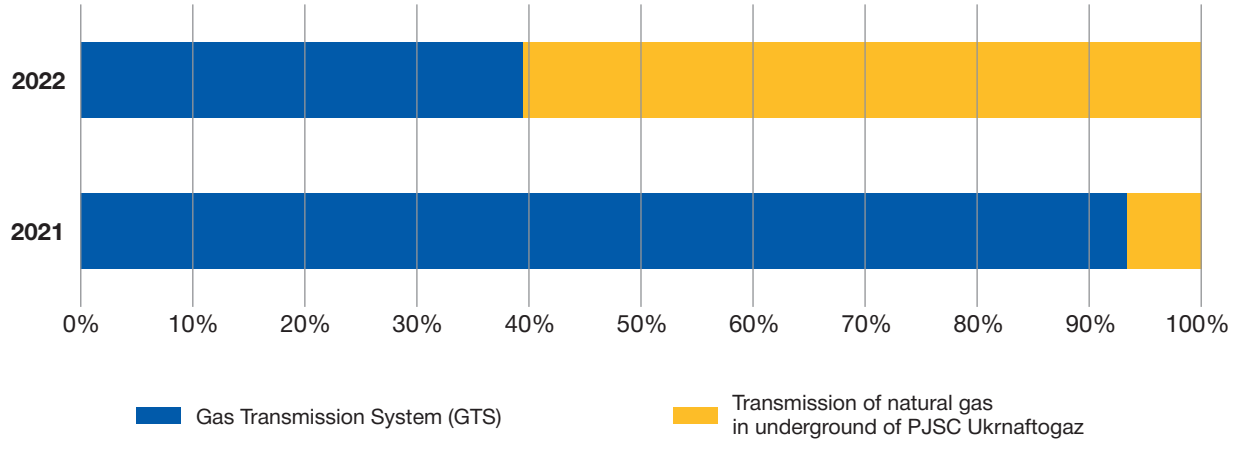
Kraft Energy LLC (371) and JSC Ukrgasvydobuvannya (209) formed the largest number of starting positions.

Last year, participants' interest in trading in UGS facilities at UEEX increased. This was largely due to the exhibition to the auction of resources by domestic mining companies - JSC Ukrgasvydobuvannya and PJSC Ukrnafta.

Sales results of natural gas month resources in UGS of Ukraine, except of the trades with using differentials



Sales structure by the delivery terms

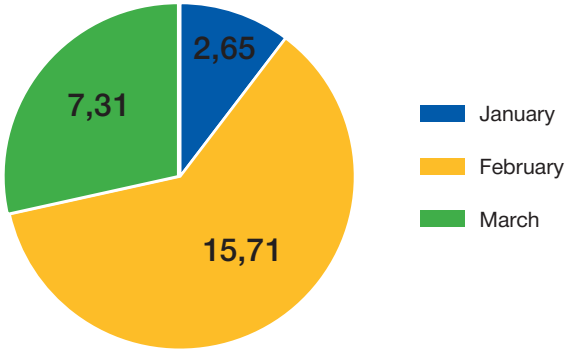


In 2022, participants were active in forming positions for the purchase of natural gas. Thus, 6,12 million cubic meters were purchased under purchase positions.

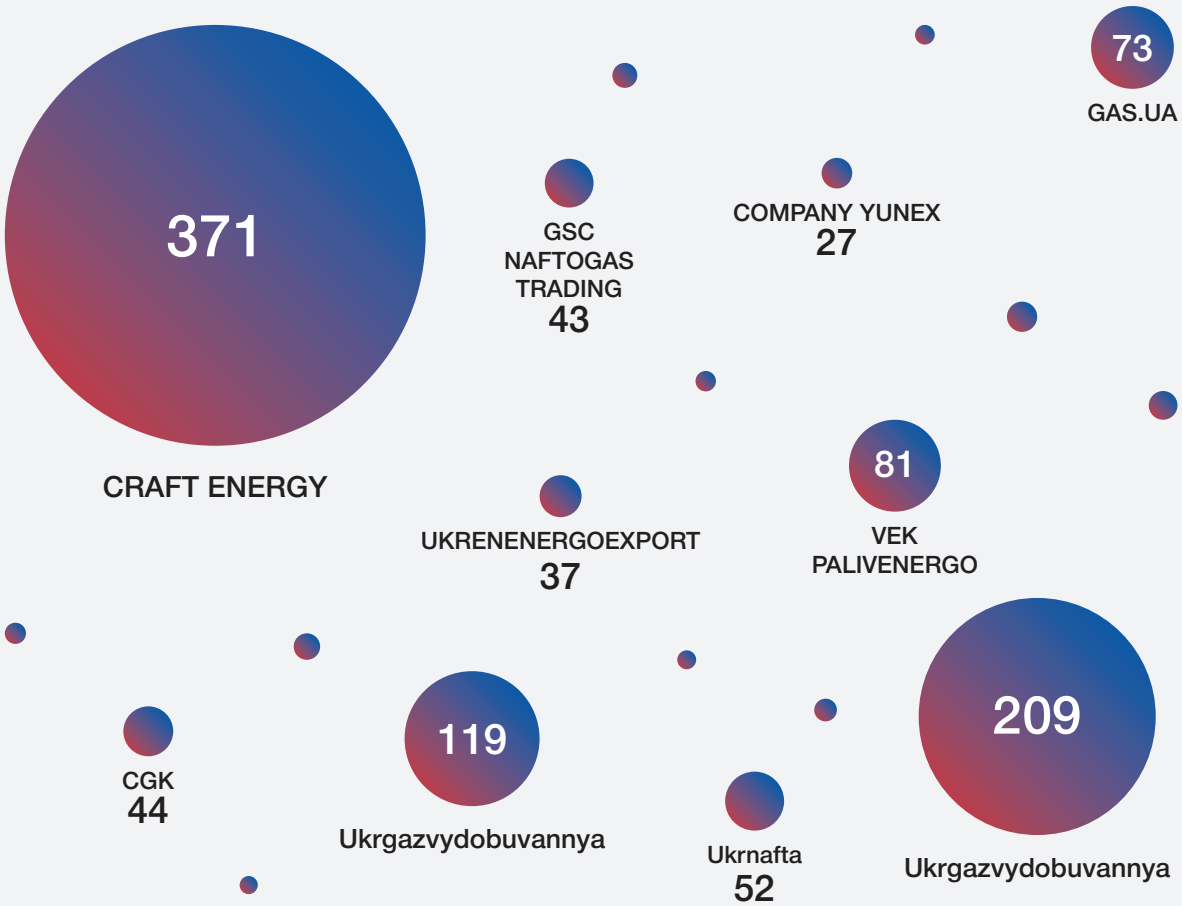
Prices fluctuated significantly during the year, differing in level from European prices but responding to changes in foreign markets in the dynamics. In December 2022, the weighted average price of the resource in the GTS was formed at UAH 37125 including VAT, which is almost the same as the UEEX price level at the beginning of the war.

On January 17, 2022, Ukrainian Energy Exchange held the first trades for the sale of natural gas of own production. In January-February, 25,66 million m^3 of natural gas were sold in the section «Natural gas of own production».

Sale of gas of own production in terms of resources, mln. m^3



Top-20 companies by the number of starting positions

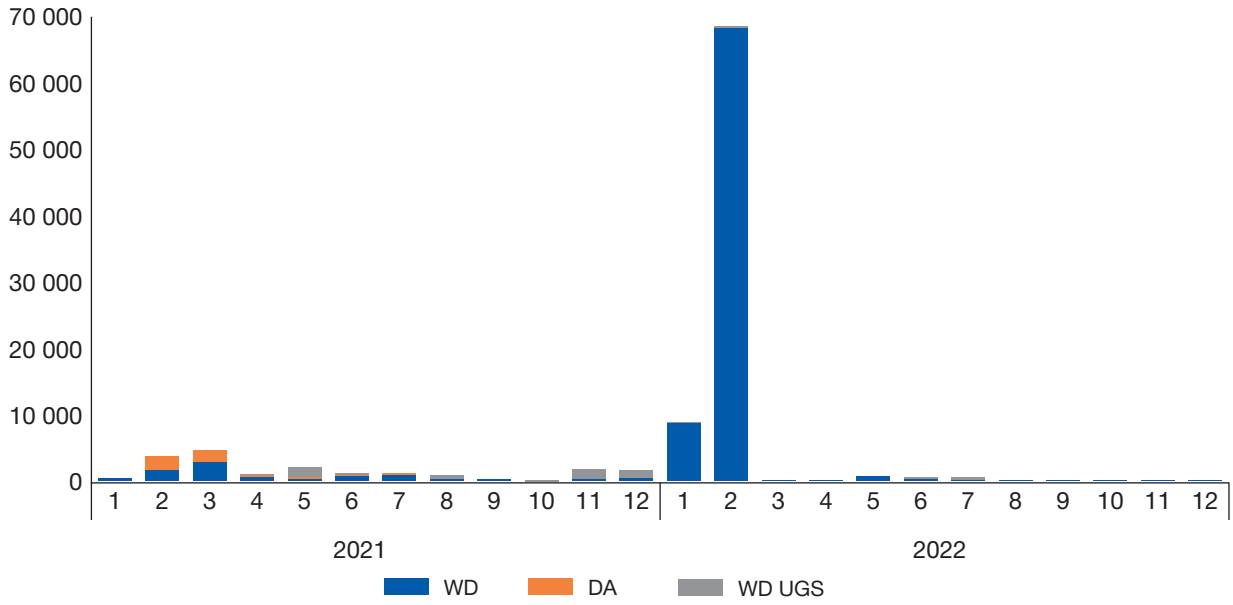


SHORT-TERM MARKET

Last January, liquidity in the short-term natural gas market increased significantly, which was facilitated by the introduction of the European balancing practice of determining marginal prices based on the results of trading on the exchange.

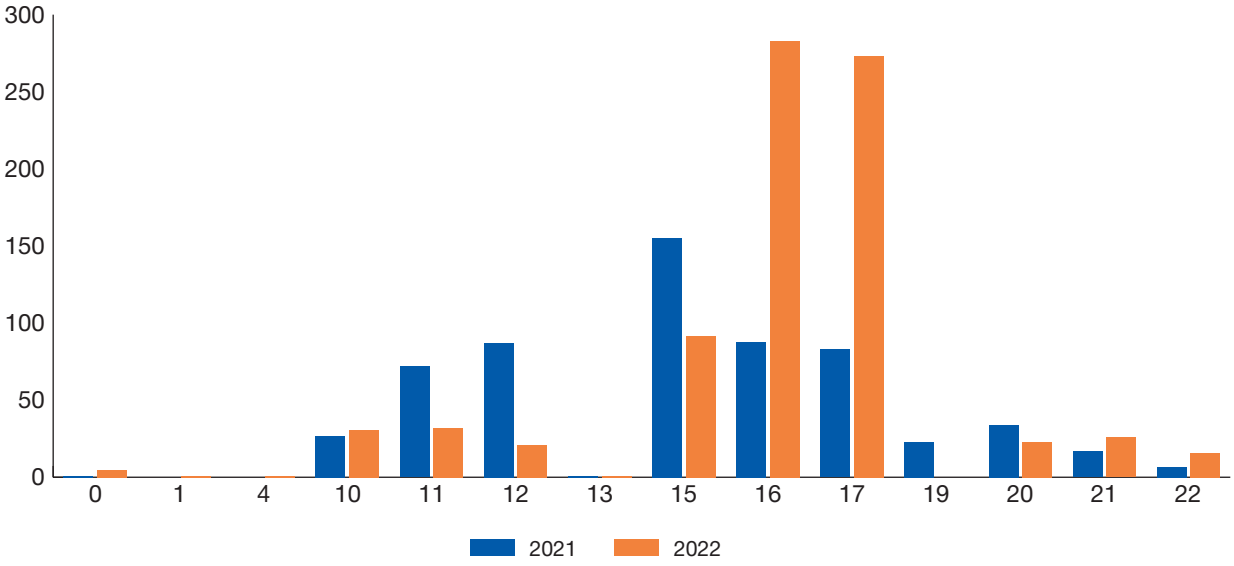
In January-February, about 25 companies were interested in purchases by GTSOU at UEEX. Thus, in January-February, 76,8 million m^3 of natural gas were sold in the short-term market in the GTS. However, the war had a significant negative impact on the development of the short-term market, reversing the upward trend that was observed in February.

Sale at UEEX short-term market, th. m^3



Like in the previous year, in 2022 the largest activeness was observed in the second trading session, which, among other things, is due to the peculiarities of obtaining information on imbalances for the current day.

Distribution of transactions fixing time during the day, pcs.

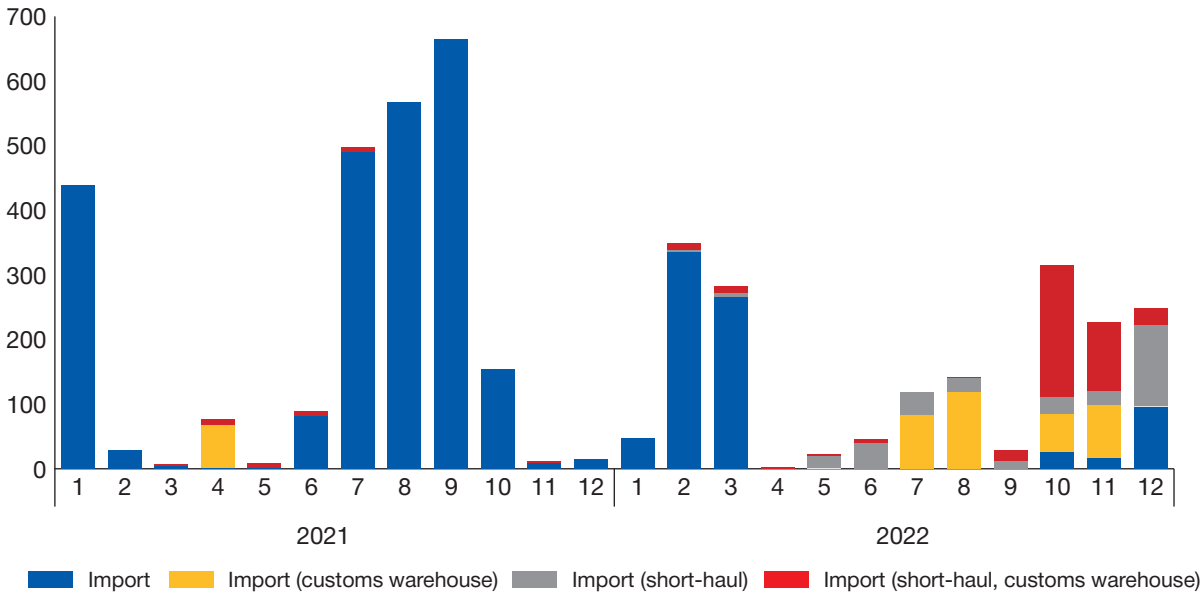


Totally, by the end of the year, 66 companies were accredited in the segment, that is 4 more than in the previous year. Of which GTS – 65, in UGS – 42 companies.

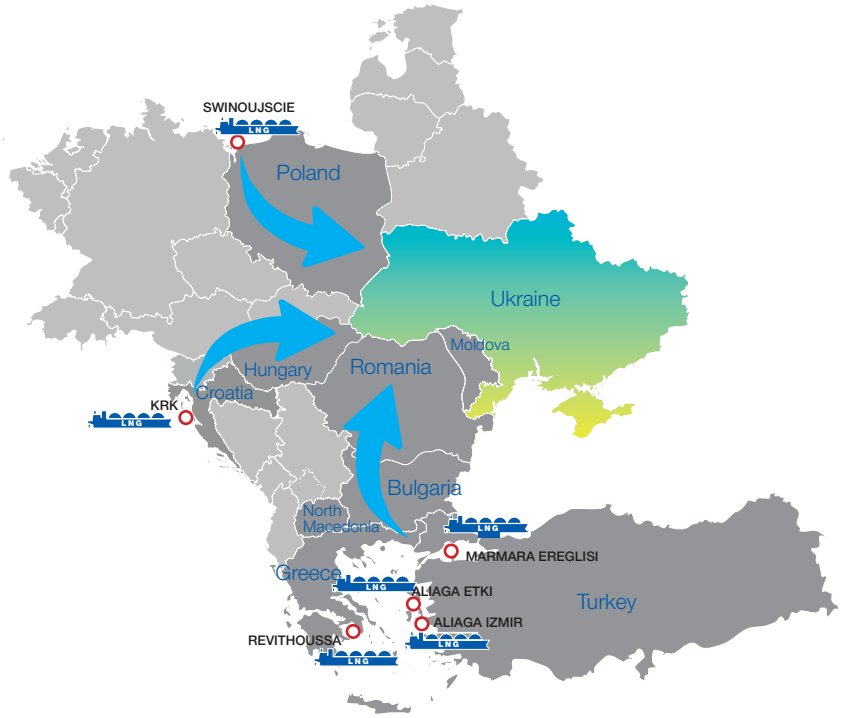
CURRENT STATE AND DEVELOPMENT PERSPECTIVES OF NATURAL GAS MARKET IN TERMS OF REGIONAL COLLABORATION

The war caused a reorientation of the gas market, including in terms of natural gas supplies to Ukraine. There was a decrease in imports compared to the previous year. The main importer remained Naftogaz, which was assigned additional obligations to supply natural gas, to meet which it was imported more than 1 billion cubic meters of natural gas.

Import of natural gas from European direction, mln m^3



Possibilities of supplying regasified LNG to Ukraine: routes

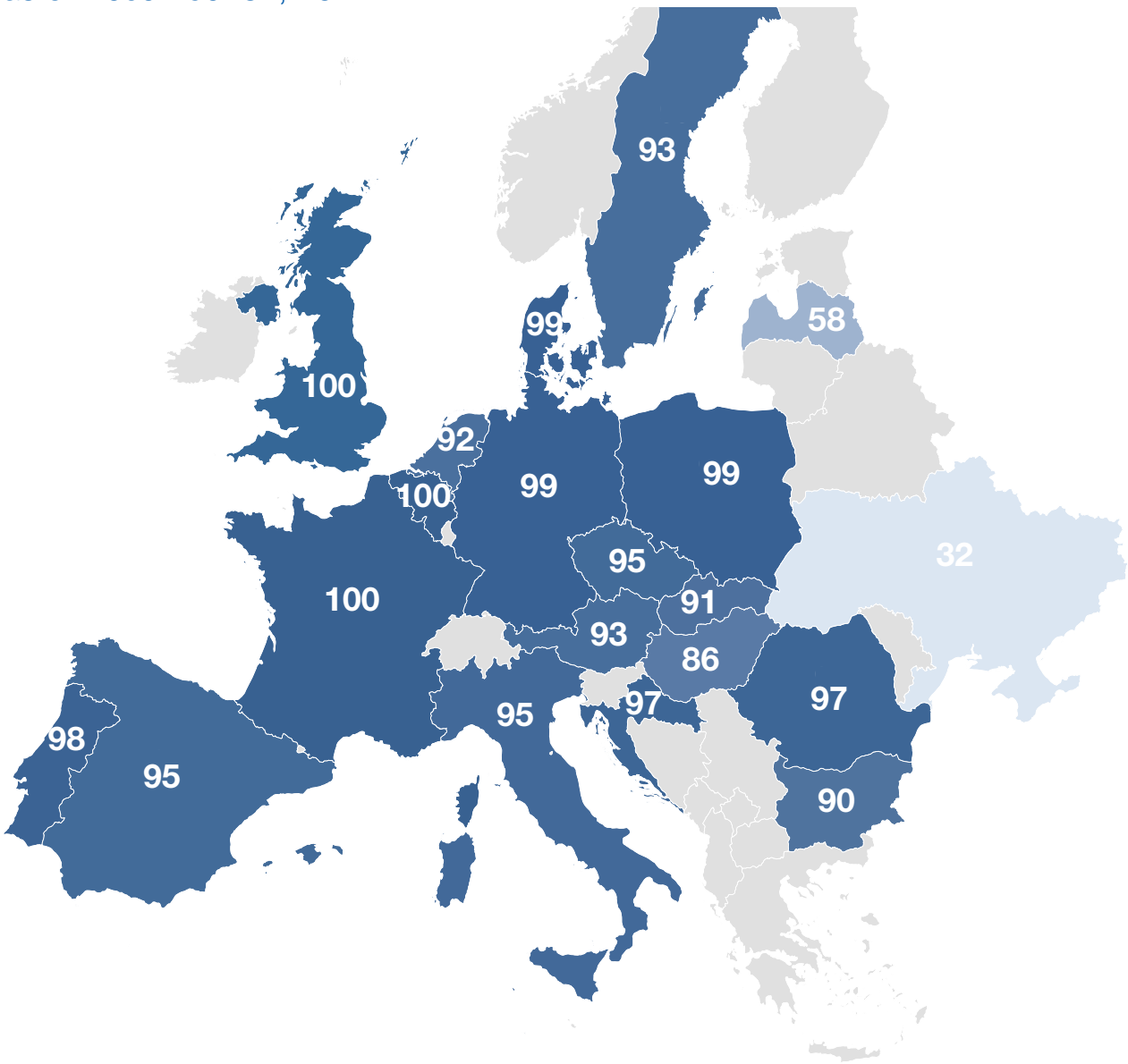


In addition to import of pipeline gas, Ukraine has the option of supplying regasified LNG from terminals in Poland, Greece, Turkey, or Croatia. Existing connections between the countries make it possible to use these routes. Therefore, it is important to estimate the costs of gas transportation. For example, delivery of natural gas via the longest route - the Trans-Balkan Gas Corridor - will be the most expensive, while delivery from Poland will be the cheapest. The volumes of regasified LNG, as an addition to traditional pipeline natural gas, will help diversify supply sources and boost domestic trade in the future.

Starting from November 1, 2021, Ukrainian Energy Exchange, together with the Gas Storage Operator (Ukrtransgaz), opened the possibility for customers of gas storage services in UGS facilities to trade in two new products: natural gas stored in UGS facilities under the customs regime «customs warehouse» and natural gas stored in gas storage facilities under the customs regime «customs warehouse» on the terms of simultaneous use of capacity with restrictions («short-haul»). Unfortunately, due to the restrictions on foreign exchange transactions during the war, this area is currently not in demand among market participants.

In the post-war period, UEEX considers trade in the customs warehouse at UEEX as a tool to ensure the country's energy security in the context of attracting European countries with a shortage of storage capacity to Ukrainian underground natural gas storage facilities, with further development of trade in UGS.

Filling of storage facilities with the working volume of natural gas, % as of December 31, 2022



In July 2022, Ukrtransgaz began preparation for certification for the use of UGS facilities by EU countries, noting that Ukraine, as a member of the Energy Community, is ready to offer up to 10 billion m^3 of its gas storage capacities to EU countries. In particular, successful certification will allow the storage of strategic gas reserves of the EU countries (not just private non-resident customers) in Ukrainian UGS facilities, maximize the use of gas storage capacity, and increase revenues from the provision of underground storage services.



OIL AND GAS CONDENSATE

Trade of oil and gas condensate at UEEX

State companies sell oil and gas condensate of own production exclusively in accordance with the Law of Ukraine «On oil and gas» and the Resolution of the Cabinet of Ministers of Ukraine No. 570 dd. October 16, 2014 «On Organization of auctions for the sale of crude oil, gas condensate of own production and liquefied gas».

Since state-owned enterprises were authorized to select the exchanges for the auctions, PJSC Ukrnafta and Ukrgasvydobuvannya chose UEEX through a competitive bidding process.

UEEX was selected by Ukrgasvydobuvannya on the basis of a competitive selection process.

The Cabinet of Ministers of Ukraine issued a resolution to include crude oil and gas condensate of its own production and liquefied gas in the list of products traded exclusively on organized commodity markets (Government Resolution No. 1433 dd. 30.12.2021).

Accordingly, other sellers at unregulated prices were also obliged to sell their products on the exchange.

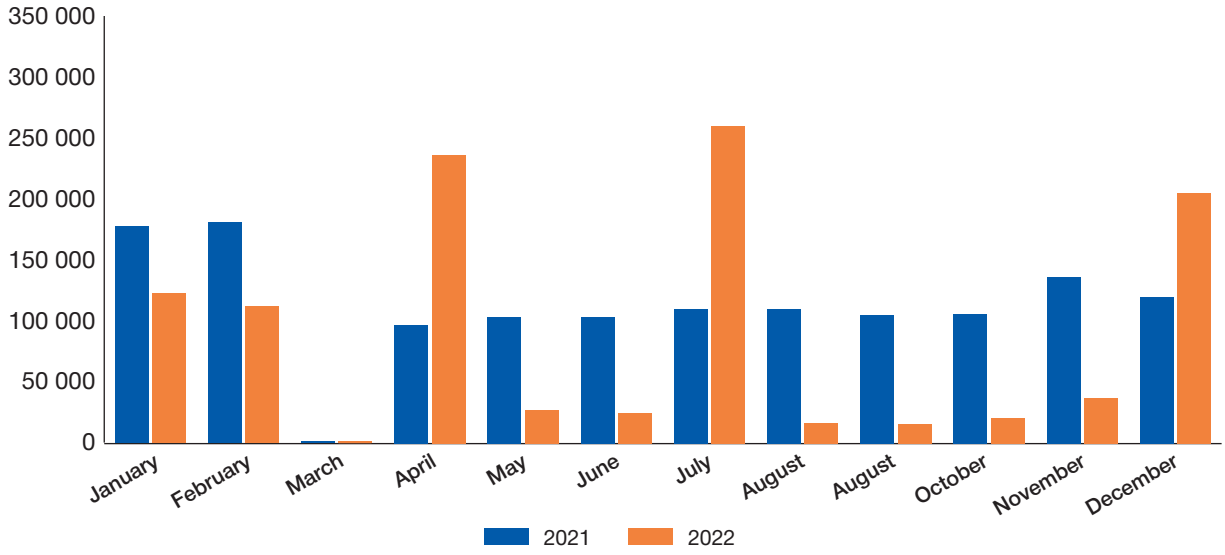
In 2022, Oil and Gas Condensate was the second largest sales area among other areas at UEEX.

The main participants in the auctions are PJSC Ukrnafta, JSC Ukrgasvydobuvannya, D.Trading LLC, and others.

As of the end of 2022, 129 companies were accredited at the UEEX in the Oil and Gas Condensate segment.

During 2022, 1,23 million tons of oil and gas condensate were sold at UEEX (excluding differential trading).

Sales volumes of oil and gas condensate excluding trades with differentials at UEEX in 2021-2022, tons



During the year, 115 trading sessions were held in this area and 986 exchange certificates were concluded. According to the results of the auctions, the lowest annual price was recorded in December 2022 at UAH 15 000 per ton including VAT for oil if delivered by road and/or or rail, EXW, and UAH 10 000 per ton including VAT for gas condensate if delivered by road, EXW. The largest price increase of 56% from the starting price was recorded in May 2022.



OIL PRODUCTS AND LIQUEFIED GAS

Trade in LPG, oil products and other oil refined products at UEEX

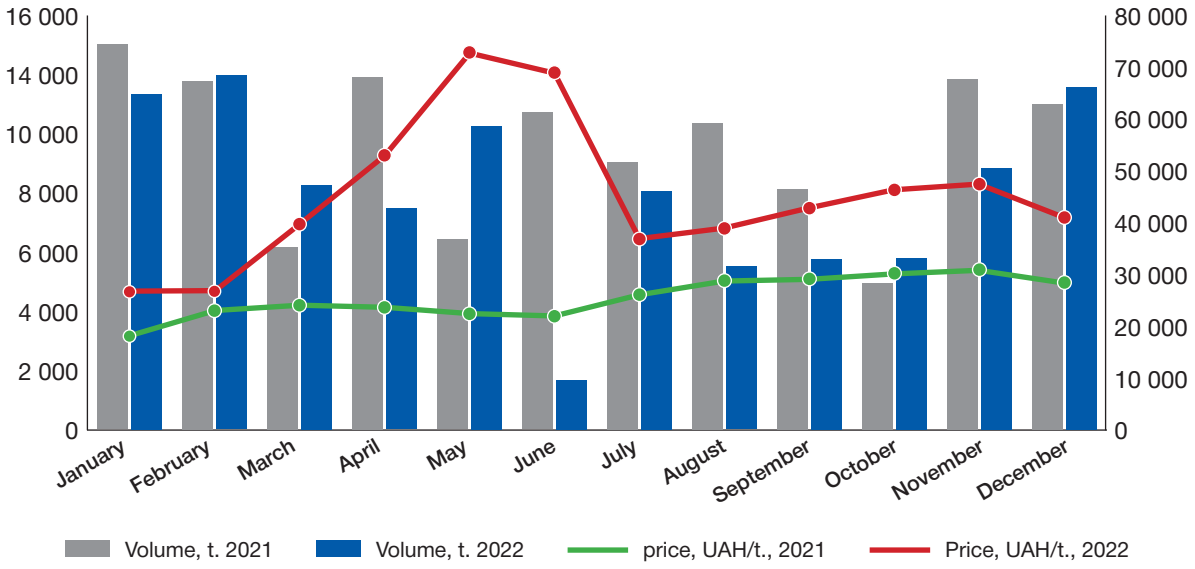
Sale of liquefied gas by state-owned enterprises in Ukraine was also carried out in accordance with Resolution No. 570.

During the year, 71 trading sessions were held in the LPG segment and 1617 exchange certificates were concluded.

In total, 110,2 th. tons of liquefied gas were sold at UEEX in 2022, compared to 131,71 th. tons in 2021.

Weighted average prices during the year ranged from UAH 26 865 to UAH 73 019 per ton (including VAT), and the price of liquefied gas increased by 53% by the year. In the reporting year, the highest sales volumes were in February and December, and the highest price was recorded in May 2022.

Weighted average prices and sold volumes of LPG, excluding trading with differentials at UEEX in 2021-2022.



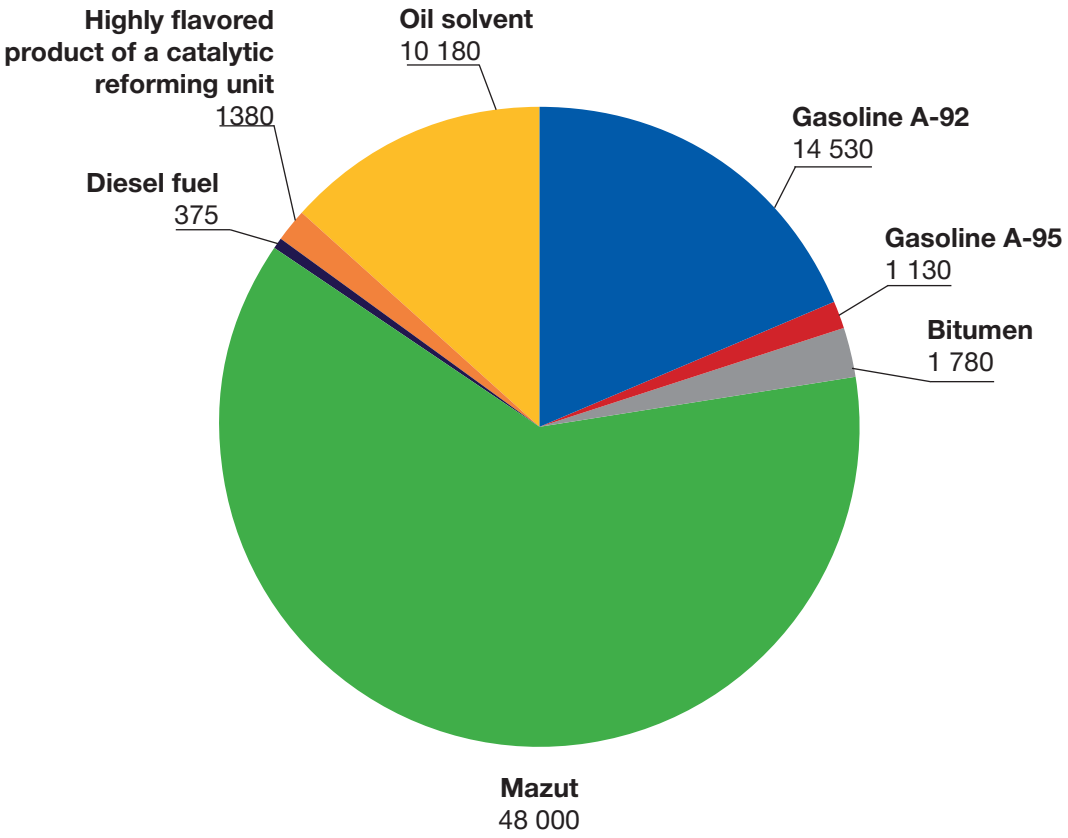
Total sales volume of gasoline and diesel fuel in 2022 at UEEX LLC amounted to 16,04 th. During the year, 21 trading sessions were held in this area.

The weighted average annual price of A-95 gasoline based on the results of the auction amounted to UAH 38100,00 per ton including VAT, an increase of 13,6% compared to last year, and UAH 41554,55 per ton including VAT for A-92 gasoline, which is 30,1% higher than the weighted average annual price in 2021 (excluding sales using differentials). The weighted average annual price of diesel fuel at UEEX amounted to UAH 35528/t, including VAT, which is 59,8% higher than the weighted average annual price at UEEX in 2021.

Ukrgasvydobuvannya offered the largest volume of resources, while the buyers were mainly suppliers of gas station chains.

In 2022, UEEX sold 1,78 th. tons of bitumen, which is 12,9% more than in 2021. During the year, 26 trading sessions were held. The weighted average prices during the year ranged from 18000 to 20500 UAH/t including VAT. The weighted average annual price of bitumen based on the results of trading on the Exchange amounted to UAH 19545,65 per ton, including VAT, which is 29,4% higher than last year. Resource of Ukrgasvydobuvannya was offered the most.

Sales volume of oil products and the other oil refinery products of UEEX in 2022, t.



Other oil refined products were sold through trading in differentials. During the year, 48 trading sessions were held, which is 2 times higher than last year's figure. In particular, among them in 2022, the main producers, PJSC Ukrtatnafta and JSC Ukrgasvydobuvannya, sold the most volume of mazut, with the total volume of 48 th. tons.

Other oil refinery products, namely a highly flavored product of the catalytic reforming unit and petroleum solvent C4-50/170, were sold in a total volume of 11,56 th. tons.



OTC TRANSACTIONS

Registration of OTC transactions on UEEX

Pursuant to part 5 of Article 5 of the Law of Ukraine «On Capital Markets and Organized Commodity Markets», the Cabinet of Ministers of Ukraine adopted Resolution No. 1433, which approves the list of products that may be traded exclusively on organized commodity markets. In turn, an organized commodity market can operate exclusively as a commodity exchange with the functions of conducting exchange and over-the-counter (OTC) transactions. Therefore, during the transitional period, UEEX offered market participants to trade products on the UEEX OTC market.

At this stage, the mechanism for OTC transactions stipulates that transactions involving the transfer of ownership or obligations to transfer ownership of products with a volume of at least 10 tons are subject to registration. Registration of transactions and information on its execution by means of reporting is carried out in the information system of the Electronic Reporting Register (ERR). The obligation to report is imposed on the buyer (for import transactions) and the seller (for transactions on the domestic market).

The innovation proved to be quite successful and contributed to increased market transparency, and became the next stage of its development. Since the first transaction was registered in August, more than 300 contracts were entered into the ERR system by the end of the year. 26 companies that are registered users of the ERR reported on transactions both on the domestic and foreign markets.

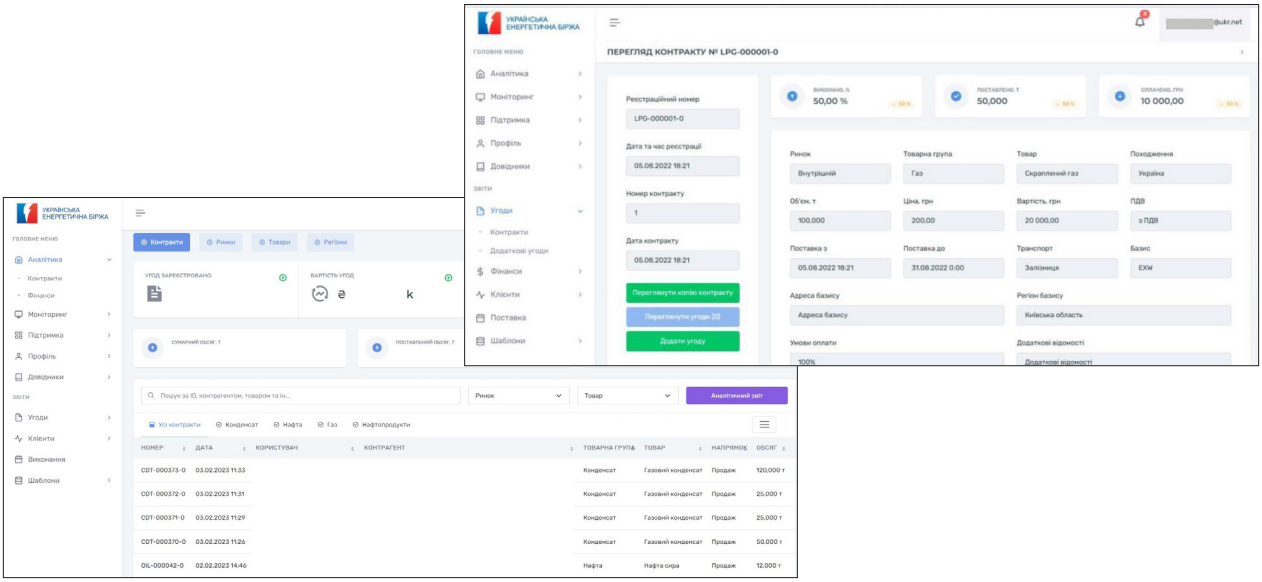
The information contained in the reporting system is confidential. Generalized indicators can be used to calculate indices or other price indicators for the reported products. First of all, market participants should be the most interested in participating in the formation of a reliable price benchmark in the market, because a summary picture of all the information provided, which is closest to real time, in the form of weighted average price indices is necessary to support decision-making processes on purchase and sell and the formation of future contract prices. In 2022, the UEEX team worked on the next stage of development of this area - the development of a methodology.

«Types of OTC domestic market price indices which are calculated by the Exchange. Creation of a national benchmark - an OTC domestic market price index - will reflect information on the state of market conditions and counterparty risks through market price behavior. It is important to note that the role of the commodity exchange remains dominant in terms of price formation based on the ratio of supply and demand, as the exchange generates indicators of the exchange market itself, and through the reporting system, exchange aggregates information on the OTC market.

It is expected that with more participants joining the registration of OTC transactions, prices will become more transparent and markets more understandable.

«The purpose of launching such a tool is to ensure transparency of commodity markets by establishing a process for determining prices in real time and their current changes, strengthening regulatory oversight of prices and market participants and the ability to respond quickly to manipulative transactions, as well as an additional way to obtain market information directly for price assessment without delay,» commented Oleksandr Kovalenko, UEEX CEO.

UEEX Reporting system



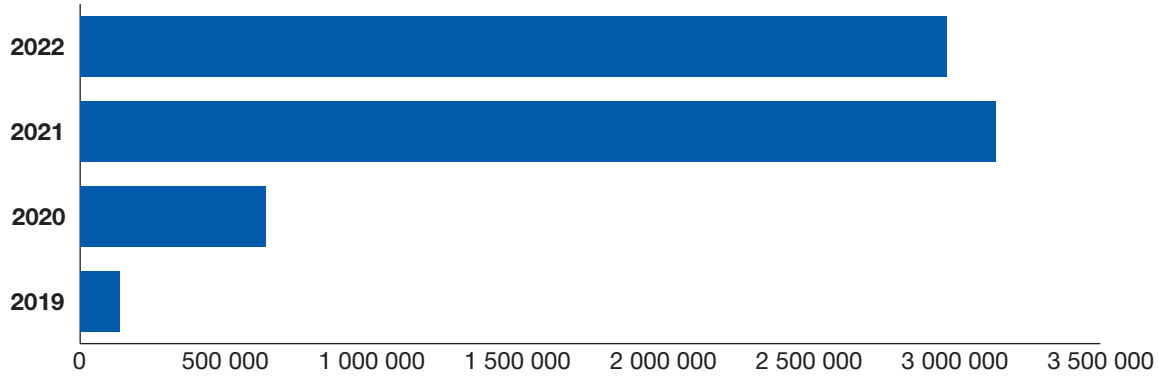


UNTREATED TIMBER AND LUMBER

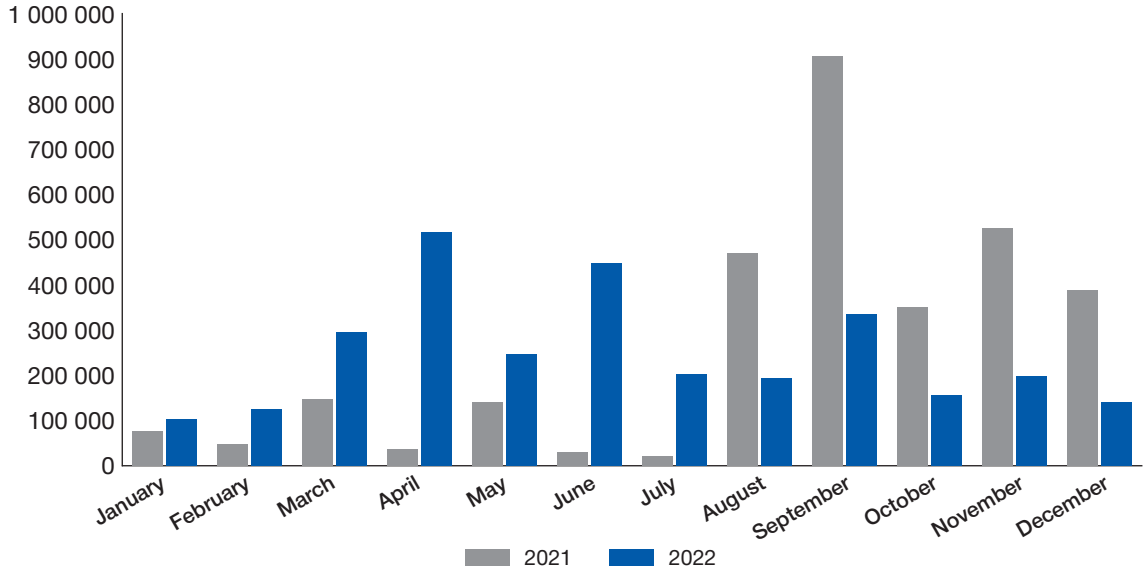
Trade in untreated timber at UEEX

In 2022, 2,97 million m³ of untreated timber were sold at the Ukrainian Energy Exchange for a total value of UAH 8,43 billion. The largest volume was sold in April, amounting to more than 500 th. m³. The total volume of lumber sales in 2022 amounted to 2,88 th. cubic meters, with a total value of UAH 13,66 million.

Untreated timber sales volume, m³

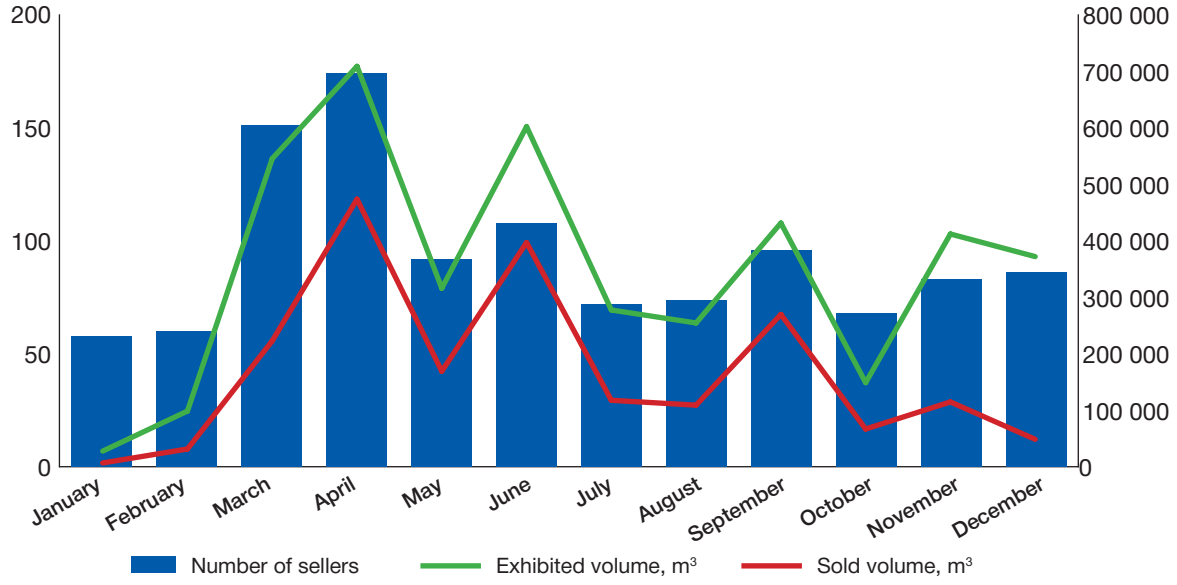


Comparison of untreated timber sales volumes on monthly basis in 2021/2022, m³



In 2022, about 200 state-owned forestry enterprises, forest parks and hunting grounds, military forestry enterprises, agro-industrial complexes, and others put up their positions for sale.

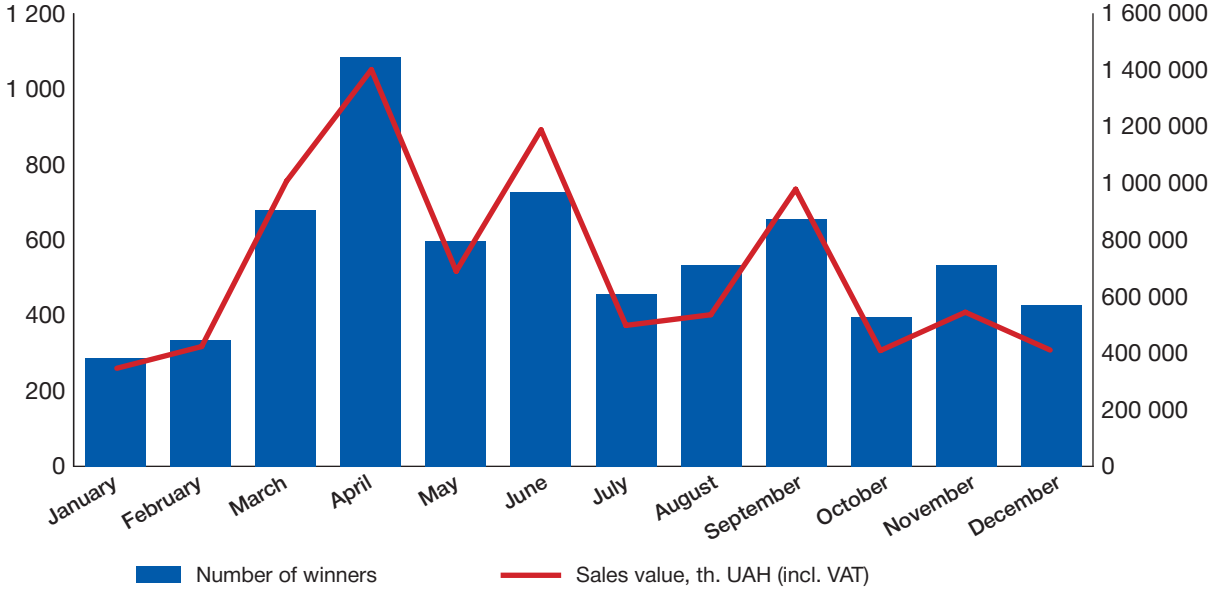
Monthly indicators of unique sellers of exhibited and sold volume in 2022



In 2022, the total number of buyers who regularly traded on the exchange was more than 2300. These included legal entities and individual entrepreneurs.

Due to the large-scale shelling of the energy infrastructure, demand for wood products was declining at the end of the year.

Total sales value and number of unique customers by the month



Total value and additional income of FE by months in 2022, th. UAH (incl. VAT)

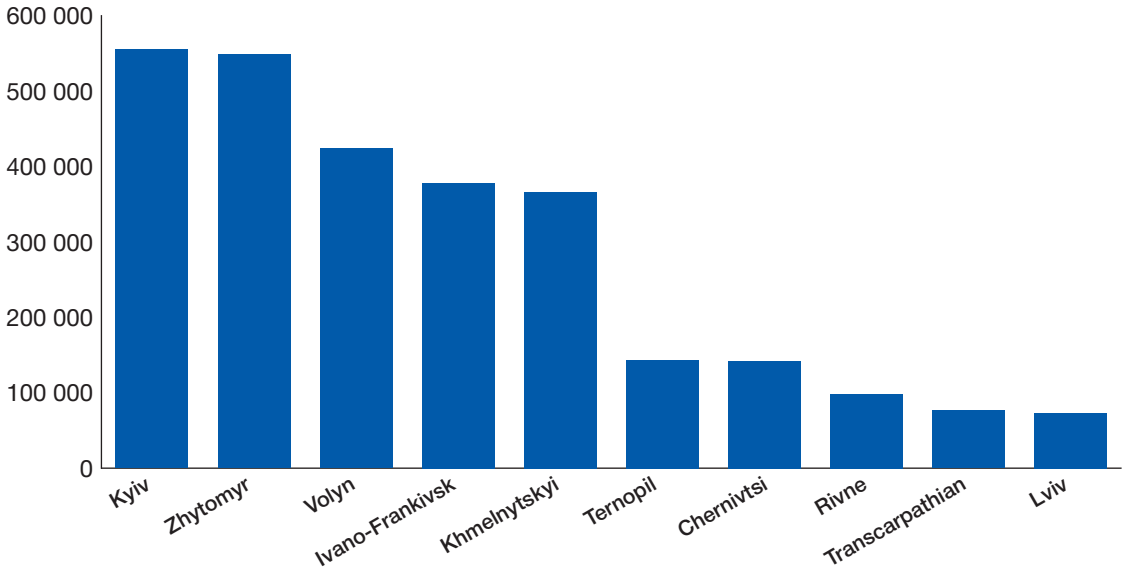


Additional income of forestry enterprises amounted to more than UAH 958 million in the year. The highest yield was in the spring.

TIMBER SALES BY THE REGIONS

Untreated timber was sold by forestry enterprises in 20 regions of Ukraine. The largest volume was sold in Kyiv region. The TOP-10 largest regions for timber sales include the following regions: Kyiv, Zhytomyr, Volyn, Ivano-Frankivsk, Khmelnytsky, Ternopil, Chernivtsi, Rivne, Zakarpattia, Lviv.

Sales volume in 2022 by the regions, m^3



MONTH INDICES FOR UNTREATED TIMBER

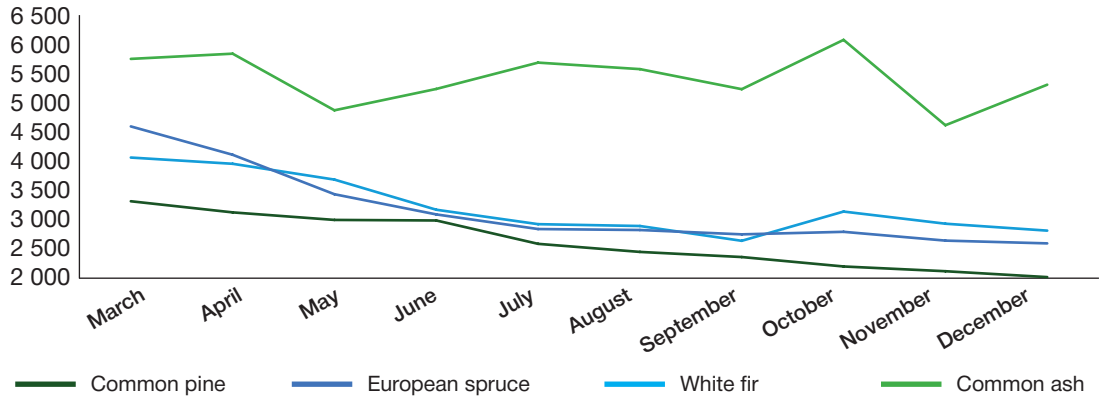
In 2022, Ukrainian Energy Exchange introduced price indicators for untreated timber, including round timber and firewood, with different frequency of calculation and publication.

Overall, the year has seen both a decline and an increase in the price of round timber.

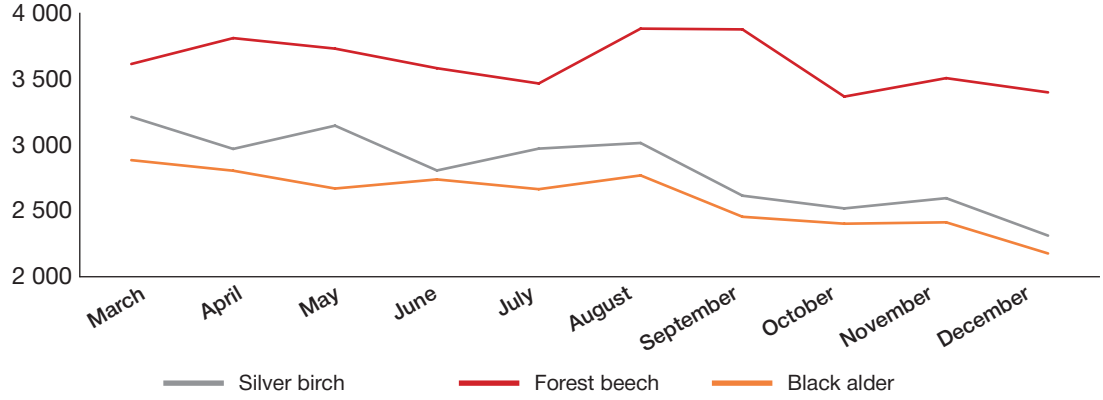
For example, the rise in prices in June for oak and pine and in August for beech, birch, alder, and oak was driven by increased demand during quarterly auctions.

The fall in prices at the end of the year was due to natural factors - lack of demand as a result of a decline in construction.

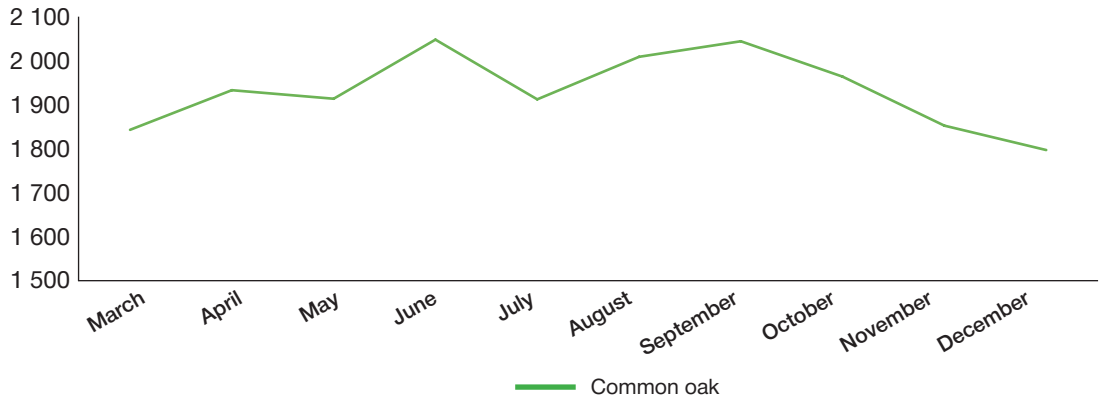
Monthly indices for round timber, UAH/m^3



Month indices for round timber, UAH/m^3

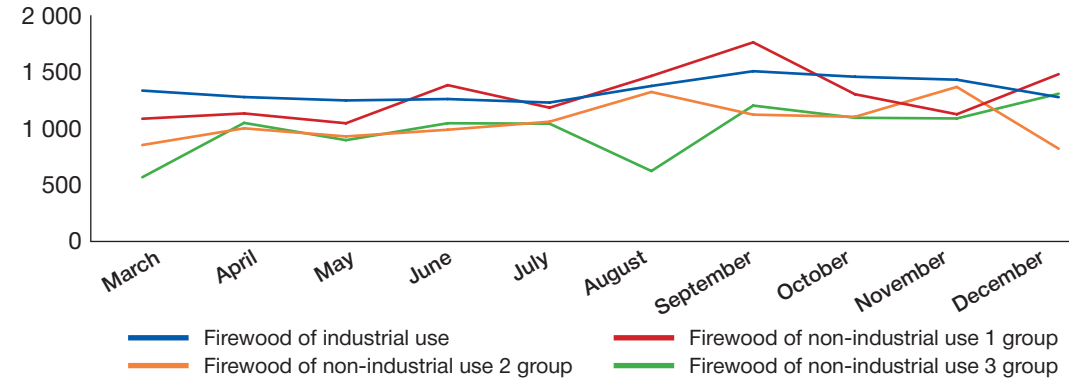


Month indices for round timber (common oak), UAH/m^3



Prices for industrial firewood remained relatively stable during the year. In contrast, prices for non-industrial firewood have been constantly fluctuating.

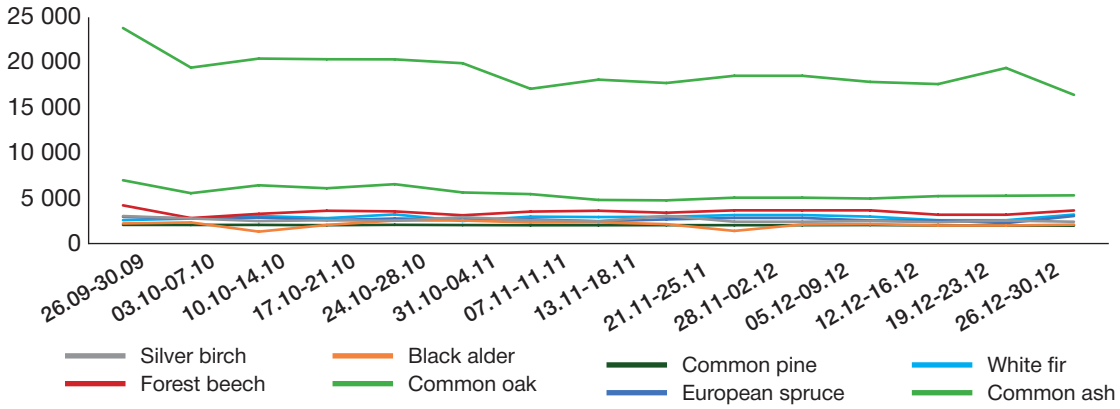
Monthly indices for firewood, UAH/m³



WEEKLY INDICES FOR UNTREATED TIMBER

Price indicators for untreated timber are also calculated and published on a weekly basis. Thus, exchange provides an opportunity to observe current price trends and changes, which makes indicators more accurate in a short period of time.

Weekly indices for timber



DAILY INDICES FOR UNTREATED TIMBER

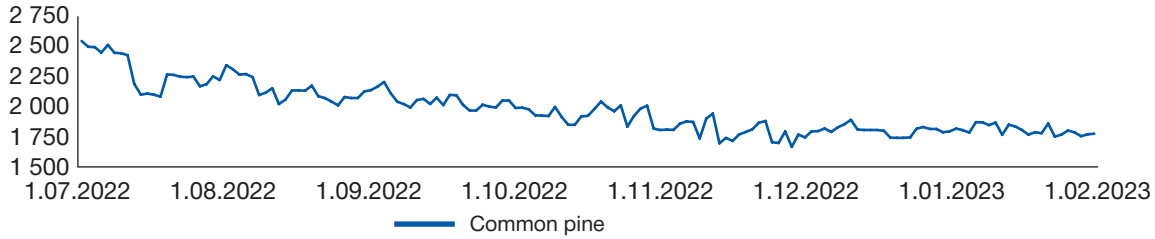
UEEX is constantly developing the quality of its services and, therefore, improving and introducing new instruments. Among them is development of an index that reflects the price of the current day's resource as a result of trading on the relevant day.

Modeling the index includes consideration of all factors of timber sales, such as product characteristics, geographical location of the product, type of warehouse, etc. Correct weighting of prices for a product according to its wide variety allows us to determine a single national price across the country for a certain type of round timber or type of firewood.

In addition to highlighting current prices on untreated timber market, the daily indices will be used to trade annual timber supply contracts.

The price indices are expected to be published in early 2023.

Model of the daily index for common pine, UAH/m³





PROZORRO. SALE

Prozorro.Sale

ProZorro.Sale system holds auctions in various areas: small-scale privatization, lease of state and municipal property, sale of special permits for the use of subsoil, land plots, alcohol industry facilities, scrap metal, transport, real estate, and other commercial lots.

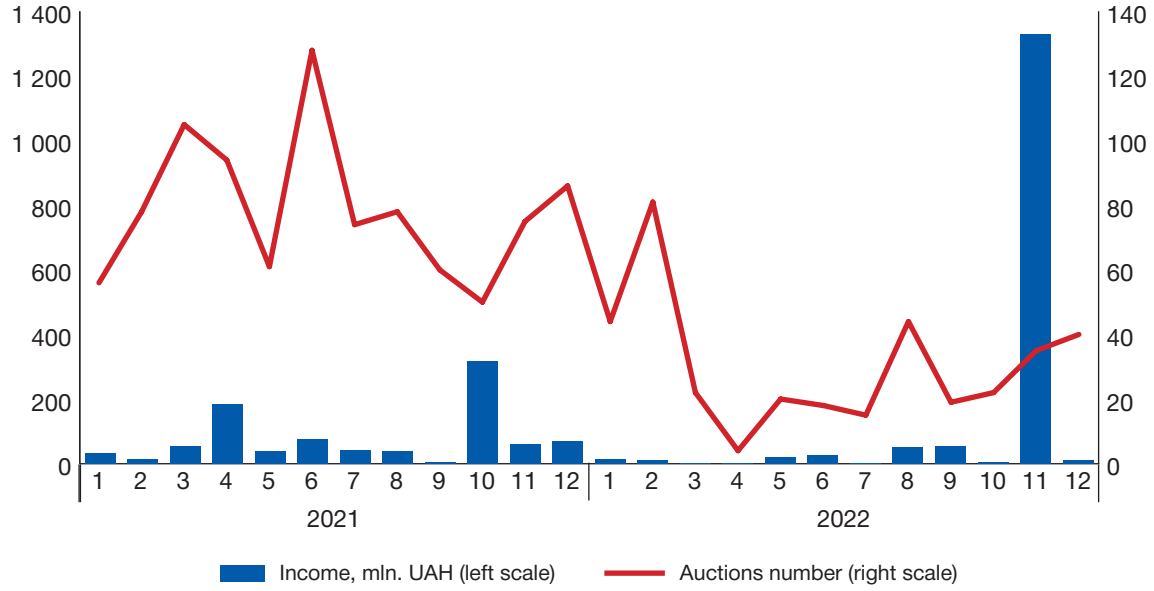
Ukrainian Energy Exchange is a part of the ProZorro.Sale project for more than 5 years, and in terms of revenue in 2022, UEEX platform was the leader among others.

Last year, 24 organizers announced more than 330 auctions, 218 of which were subsequently recognized as winning. Their annual revenue amounted to over UAH 2 billion. In particular, the overall price increase from the initial cost was more than 2 times. The total sale price was 69% higher than last year.

The winners paid almost UAH 1,6 billion to the state and local budgets in 2022.

Last year, the largest sales volumes were generated by special permits for subsoil use with a share of 81,5% and sale of property and assets with a share of 15%.

UEEX platform indicators in Prozorro.Sale system, 2021-2022



«Traditionally, UEEX platform also accompanies the auction organizer, the State Service of Geology and Subsoil of Ukraine. We are their constant and professional consultants. In 2022, the State Service of Geology and Subsoil of Ukraine announced 180 auctions for the sale of special permits for subsoil use.

As a result of the auctions, the state budget was replenished by more than UAH 1,75 billion, which is 933% more than the starting price of the sold special permits, which amounted to UAH 188 million», - informs Oleksandr Kovalenko, UEEX CEO.

DEEPENING INTERNATIONAL INTERCONNECTIONS IN ENERGY MARKETS

In 2022 UEEX and USAID, within the framework of the Energy Security Project (ESP), signed a Memorandum of Understanding aimed at creating a favorable environment for the implementation of reforms in the energy sector of Ukraine and strengthening energy security.

The Memorandum provides for assistance in the following areas:

- development of an operational model for clearing and settlement for the wholesale electricity and gas markets;
- development of standardized physical and financial (forwards) products for the wholesale electricity and gas markets;
- promotion of best practices in reporting in accordance with EU Regulation (EU) No 1227/2011 on the REMIT wholesale energy market integrity and transparency.

Successful implementation of the Memorandum should contribute to the fulfillment of Ukraine's international obligations under the Energy Community Treaty and the requirements of the EU-Ukraine Association Agreement by strengthening organized market segments through standardized improved operations, products, reporting and services.

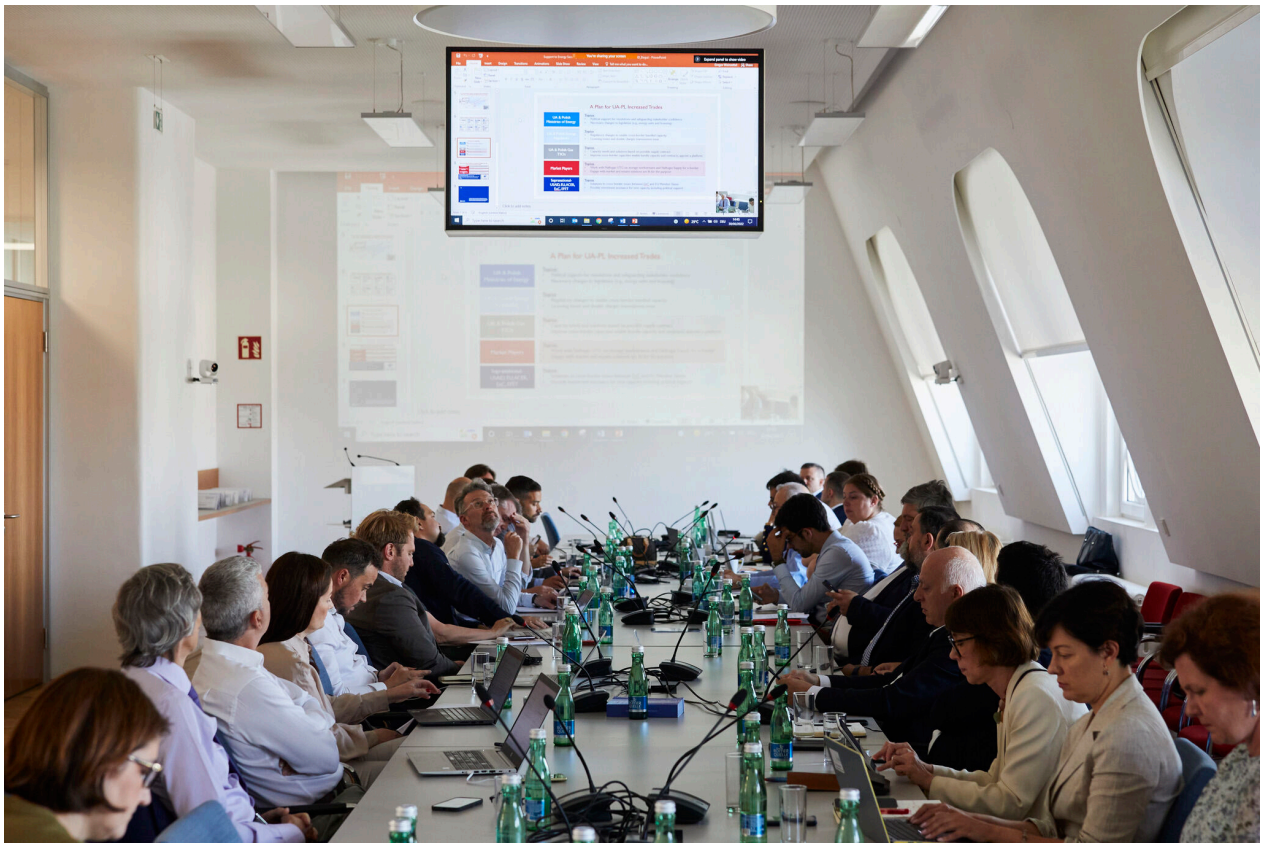
USAID FROM THE AMERICAN PEOPLE Energy Security Project

UKRAINIAN ENERGY EXCHANGE УКРАЇНСЬКА ЕНЕРГЕТИЧНА БІРЖА

At the same time, the Southeast European Gas Initiative (SEEGAS) is underway, responding to the growing interest of stakeholders in establishing organized gas exchanges and improving cross-border trade.



UEEX is constantly represented at events within SEEGAS. Thus, on June 30 - July 1, the Extraordinary 4th SEEGAS Crisis Meeting discussed regional security of supply and price situation on gas markets in the Southeast Europe region in the light of regional initiatives on cross-border cooperation and the crisis of high energy prices in Europe.



In December 2022, UEEX was represented at the SEEGAS conference and anniversary panel dedicated to the 10th anniversary of the Polish gas market. On the eve of the conference, the quarterly meeting of the SEEGAS Joint Steering Committee took place, where representatives of gas exchanges discussed the recently launched regional clearing project with EBRD and GTS operators provided an update on current projects.

TRANSPARENCY AND REPORTING

Law No. 738-IX stipulates that the NSSMC will carry out state regulation of capital markets and organized commodity markets (commodity exchanges). In addition, other state authorities may be involved in the regulation of commodity exchanges in cases established by law, namely: regulators of the relevant commodity market and central executive authorities that ensure the formation and implementation of state policy in the relevant areas, the NEURC and the AMCU.

REPORTING TO NSSMC

Commodity exchange is obliged to publish and submit information to the NSSMC in accordance with Article 13(1) of the Law of Ukraine «On Commodity Exchanges» and Article 57 of Section V of Law of Ukraine No. 738-IX, which, inter alia, provides that the NSSMC establishes the procedure and forms for submitting information.

To comply with the requirements of the Law, in early 2022 the NSSMC decided to approve the Regulation on the Procedure for compiling, submitting and publishing reporting data by Commodity Exchanges. Regulation provides for the obligation of the commodity exchange to submit data to the NSSMC in electronic form and in the established format of daily, monthly, annual and irregular data. Starting from October 2022, UEEX provides the NSSMC with information on all exchange transactions/exchange contracts concluded on the commodity exchange as part of daily information, monthly data, as well as non-regulatory information provided to the regulator, for example, when an exchange transaction/exchange contract is canceled, transactions with signs of manipulation are detected, etc. In early 2022, UEEX started creating its own software solution to ensure the generation of reports to the NSSMC. Currently, the work on automating the processes of compiling and submitting reports is ongoing and will continue next year, as from the beginning of 2023, commodity exchanges will be obliged to generate and submit new reporting data to the NSSMC, which will include the calculation of the liquidity of commodity exchange assets.

At the same time, the License terms and conditions for the professional activity in organized commodity markets contain a number of requirements, including transparency of the exchange's activities, which exchange must comply with through the entire period of its license. Other regulatory documents of the NSSMC regulating the activities of the exchange are the Decision of the NSSMC «On approval of the regulation on conducting activities on organization of trade in products on commodity exchanges», the Decision of the NSSMC «On Approval of the Regulation on Conducting Clearing Activities», Decision of the NSSMC «On Approval of the Regulation on Conducting Financial Monitoring by Primary Financial Monitoring Entities, State Regulation and Supervision of Activities of Which is Carried Out by the NSSMC», etc.

REPORTING TO NEURC

NEURC mentions, that preparing to REMIT Regulations launching. After implementation by Ukraine requirements of REMIT, UEEX will implement obligations, imposed on persons caring out trading operations on professional base (PPATs) and will propose its services to RRM.

In accordance with the specifics of the PPAT's functioning, the REMIT requirements apply to the extent that the PPAT is responsible for monitoring and promoting the integrity, transparency and proper functioning of the wholesale energy market. UEEX and the NEURC signed a Memorandum on promoting the effective development of electricity and natural gas markets, cooperation on information interaction for the purposes of effective development, transparency of electricity and natural gas markets. This cooperation enables consolidation of efforts to implement European standards in the Ukrainian energy market. UEEX also provided the Regulator with access to the Market Analytics System for Bilateral Electricity Contracts, in accordance with the requirements of Article 20 of the Law of Ukraine «On the National Energy and Utilities Regulatory Commission» and Article 6 of the Law of Ukraine «On the Electricity Market».

REPORTING TO MINISTRY OF ENERGY OF UKRAINE

Ukrainian Energy Exchange provides information to the Ministry of Energy of Ukraine on purchase and sale of electricity under bilateral contracts to monitor the bilateral contracts market on a weekly basis.

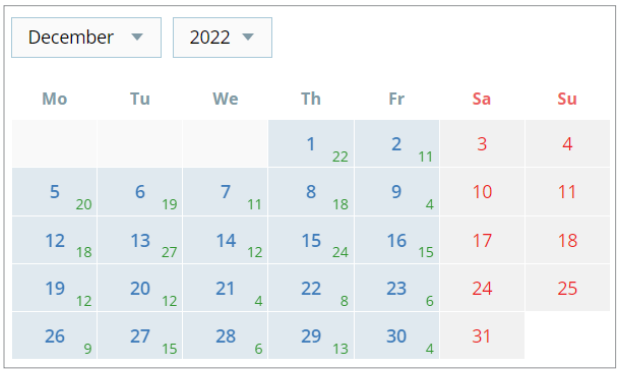
REPORTING TO AUCTION COMMITTEE

The mechanism for conducting electronic auctions on electricity trading by bilateral contracts is designed to ensure compliance with its main principles, namely:

- fair competition (in particular, by setting the number of lots offered for sale simultaneously by the seller, with a total volume that will attract as many potential buyers as possible)
- non-discrimination of auction participants;
- objectivity and impartiality;
- anonymity (depersonalization) of the auction participants - buyers in order to minimize the risk of anticompetitive concerted behavior between the auction participants;
- prevention of corruption and abuse;
- market pricing except exclusions stipulated by Law.

Ukrainian Energy Exchange ensures complete transparency of such electronic auctions by publishing all information on the course and results of the auctions, as defined by the Procedure №499. The exchange provides daily reports on electricity trading to the members of the Auction Committee. UEEX cooperates with all regulatory authorities to assist in identifying possible facts of unfair competition. During the auctions, the state regulator and the Auction Committee changed the conditions and requirements for holding auctions many times, which required significant technical adjustments to the electronic trading system, which was ensured by UEEX without any delay in implementation. In particular, a number of technical solutions were implemented to improve the bidding mechanisms and meet the needs of market participants for the efficient operation of the electricity market. No complaints against the Ukrainian Energy Exchange regarding violations of the Procedure or Rules of Procedure for conducting auctions have been recorded.

PUBLISHING INFORMATION ON TRADES AND AUCTIONS



Exchange publishes information on trading in various areas. The information can be viewed independently by selecting the Trading Calendar and the required date. The user will be able to view the Exchange/Auction Bulletin, which contains all information about the auction (seller, product, starting price, volume, etc.). Upon completion of the auction, the Weighted Average Price Bulletin is displayed, which indicates the volume sold, the minimum, maximum and weighted average price.

UEEX QUOTATIONS

UEEX quotes and other exchange information effectively used by authorities, regulators, law enforcement agencies, the public and the media. Exchange cooperates fruitfully with the Ukrainian authorities and regulators, as, among other things, it has become an effective tool for them to build a competitive market, ensure transparency, combat corruption and improve the economic performance of companies in the industry.

UEEX exchange quotations have become recognized by the authorities and are in demand in the market, and are published by domestic and international pricing agencies. The Ministry of Economy recommended using the UEEX quotes as a benchmark for price revisions in public procurement contracts for natural gas and oil products. Exchange prices for natural gas are used to calculate payments for gas imbalances and rents for gas producers.

UEEX publishes a monthly index of base-load electricity prices. In particular, NEURC developed a resolution «On Approval of Amendments to the Procedure for Pricing Universal Services», according to which it is proposed to take into account the UEEX prices in the price of universal services when calculating the purchase price of electricity.

UEEX PLANS FOR 2023

Improving the transparency of exchange sector: increasing the amount of information published about the sector in a convenient and accessible format, meeting all legal requirements and public expectations of transparency.

Implementation of REMIT reporting as a PPAT and RRM (insider information platform administrator and data transfer administrator), respectively.

Improving mechanisms for monitoring the execution of contracts and deliveries.

Developing alternative mechanisms to guarantee payments.

Regulators should agree on specific criteria for price volatility in different market segments, continuously monitor the adequacy and improve the system of countering manipulation.

Further improvement of the reporting mechanism to the NSSMC.

Improving the settlement and clearing infrastructure of organized commodity markets, including through the development and effective cooperation of clearing, settlement, exchange and depository infrastructure.

PROMISING DIRECTIONS/MARKETS



Agricultural products: development and improvement of primary and secondary sectoral legislation, launch of an exchange market for grain and energy crops



Greenhouse gas emissions trading system



Trading in corporate PPAs and contracts for difference



Guarantees of origin of biomethane and electricity



Biogas and biomethanol/biodiesel

UEEX CHARITABLE INITIATIVES

Since the beginning of the full-scale Russian invasion, Ukrainian Energy Exchange has not only been actively working on the economic front, which is so necessary in this difficult time for our country, but has also been trying to act as a volunteer.

Exchange also helped organize two charity auctions, which funds were donated to the Armed Forces of Ukraine. It provided premises for the organization of volunteer aid distribution to war victims. Purchased two off-road vehicles, fuel, bulletproof vests, generators, thermal imagers, medicines and other items and materials for the Armed Forces of Ukraine. UEEX facilitates the delivery of volunteer cargo to the frontline and near-frontline areas.

Ukrainian Energy Exchange will continue to help the military, IDPs, and participate in humanitarian projects to strengthen our country in the difficult struggle for Ukraine's territorial integrity, sovereignty, and European democratic future.



Vehicles purchase - 2 pickup trucks, etc.

$ 12,6 th.



Gasoline, diesel fuel

$ 92 th.



2 diesel generators

$ 2,33 th.



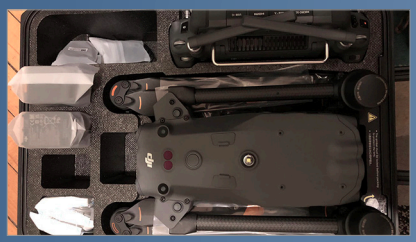
Thermal imagers

$ 3,03 th.



Bulletproof vests

$ 3 th.



Drone

$ 1 th.

Financial aid

More than $ 67,5 th.

Galvanized pipes

$ 189,5

Organization of two charity auctions have been collected and donated by participants in favour of AFU

$ 26,38 th.

Support volunteers to deliver cargo

$ 7,77 th.

Active airpods

$ 2,2 th.

Food products

$ 1,76 th.

In general ≈ $ 410 th.

Let's win together!

UKRAINIAN ENERGY EXCHANGE

УКРАЇНСЬКА ЕНЕРГЕТИЧНА БІРЖА

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