Russian War Against Ukraine: Energy Dimension
DiXi Group weekly review

(March 25 – 31)

#StopRussianAggression
#StandWithUkraine

Summary

- On the night of March 29, the enemy used 99 airborne weapons (drones and missiles) against energy facilities. Power generation facilities, including 3 thermal power plants of DTEK Group, Kanivska and Dnistrovska hydropower plants, and one of gas infrastructure facilities were affected.
- On March 30, an UAV attack disconnected equipment at a substation in the Odesa region. On the night of March 31, Russia attacked several Ukrenergo substations in the Odesa region, with short-term disconnections of a CHP and over 170,000 consumers. In addition, the enemy once again attacked one of Naftogaz facilities (allegedly, gas storage).
- As a consequence of the March 22 attack, all units of Burshtynska, Ladyzhynska and Zmiivska TPPs were destroyed from complete to significant level. Restoration of the Dnipro HPP hydraulic units will take 18-24 months.
- A list of urgent needs is being prepared to restore the capacities of energy companies, to be handed over to partners - the Minister of Energy Herman Halushchenko.

- As of April 1, a total of 412 settlements were offline due to hostilities and technological disruptions.
- Given the significant damage to infrastructure, Ukrainian cities decided to end the heating season ahead of schedule. It could potentially save 500 mcm of gas – so the CEO of Naftogaz Oleksii Chernyshov.
- The occupiers still have not provided timely and proper access for IAEA experts to all areas of the occupied Zaporizhzhia NPP important for nuclear and physical safety
- Commercial imports of electricity were performed in the amount of 89.3 GWh (+82% WoW).
- The monthly Base BCM index for March remained at 2,409 UAH/MWh, and the index for April increased to 2,662.5 UAH/MWh (+7.6%). Base DAM index stood at 3,338.6 UAH/MWh (-3.4%).
- Ukrtransgaz and GTSOU announced that, in April, stress test results will be published confirming the reliability of the Ukrainian underground storages and transmission system even under enemy attacks.
- GTSOU plans to maintain the current conditions for system use for the entire 2024/2025 injection season and to diversify available gas transmission routes.
- The NEURC approved the Requirements for Ensuring Integrity and Transparency in the Wholesale Energy Market, as well as the Procedure for Submitting Information on Business and Trade Operations Related to Wholesale Energy Products.
- Also, the Regulator published the Register of Electricity Facilities and Installations of Consumers (including Active Consumers) Using Alternative Energy Sources for Electricity Production.
- The Asset Recovery and Management Agency (ARMA) appealed to the National Security and Defense Council and the Verkhovna Rada to resolve the issue of extraction at the Sakhalinske field.
- Ukraine and Poland signed a Memorandum of Cooperation in the energy sector.

IMPACT OF THE WAR

Attacks

Shelling of energy infrastructure. During the week, Russia continued to attack the Ukrainian power system and gas infrastructure using combined missile and drone strikes. As of April 1, a total of 412 settlements were offline due to hostilities and technological disruptions.

On the night of March 29, the enemy used 99 airborne weapons against energy facilities in the Dnipropetrovsk, Cherkasy, Kirovohrad, and Ivano-Frankivsk regions. As a result, thermal generation facilities, including 3 thermal power plants of DTEK Group, and hydroelectric generation facilities were damaged, as well as substations, households and industrial consumers, and municipal facilities were cut off from power supply. According to the President Volodymyr Zelenskyi, the enemy targeted Kanivska and Dnistrovska HPPs. In addition, one of the Naftogaz Group's gas infrastructure facilities in the western region came under fire, without serious damage.

On March 30, an UAV attack disconnected equipment at a substation in the Odesa region, causing a short-term power outage for about 70,000 consumers. A 110 kV substation in the Kharkiv region also lost power for a short time.

On the night of March 31, Russia attacked several Ukrenergo substations in the Odesa region, which resulted in short-term disconnections of a CHP and more than 170,000 consumers. Residential consumers in Odesa and the region were cut off from electricity, and three renewable energy facilities suspended operation. In addition, the enemy once again attacked one of Naftogaz Group's gas facilities in the western region. According to Naftogaz, the facilities have come under fire for the third time since March 24, when the Bilche-Volytsko-Uherske storage facility was allegedly damaged.

Additional information about the consequences of the March 22 attack has also begun to emerge. The CEO of DTEK Dmytro Sakharuk confirmed the damage to Burshtynska and Ladyzhynska TPPs, whose power units were damaged "from complete to more than 50%" level. Centrenergo reported the destruction of all units at the Zmiivska TPP, the degree of destruction ranged from “complete to significant”. Ukrhydroenergo’s CEO Ihor Syrota said that the debris are being cleared at the Dnipro HPP, while the production of electrical equipment will take 9-12 months, and the restoration of hydraulic units in general will take 18-24 months; it will also take time to rebuild the engine room.

The energy infrastructure of the frontline regions is affected almost daily by the fighting: over 40,000 consumers and a coal mine were cut off from electricity in the **Donetsk** region; a power line and a substation were disconnected in the **Kharkiv region**, leaving more than 3,000 consumers without electricity and more than 2,000 consumers without gas supply; about 3,000 consumers were cut off from electricity in the **Dnipropetrovsk** region and several gas pipelines were damaged; at least 3,300 consumers were offline in the **Kherson region**; and 3,100 consumers in the **Chernihiv** region.

Cyberattacks. Ukrenergo's press service warned that fraudsters are creating fake Telegram channels under the company's logo to misinform citizens about outage schedules. It is noted that true information about power supply is published exclusively on the official websites and pages of local distribution system operators. It can also be found in the consumer's personal electronic account.

Nuclear and Radiation Safety

The IAEA experts at the Khmelnytskyi, Rivne and South Ukraine NPPs, as well as at the Chornobyl site, reported that nuclear safety continues to be maintained despite numerous air attacks over the past week.

The Neutron Source, a subcritical facility located at the Kharkiv Institute of Physics and Technology (KhIPT), lost external power supply due to Russian shelling and was operating on diesel generators.

The IAEA team at the occupied Zaporizhzhia NPP did not notice any "concerns" during the inspection of the site last week. However, the occupiers still have not provided timely and proper access for IAEA experts to all areas important for nuclear and physical safety, including some parts of the turbine halls, the isolation gate of the ZNPP cooling pond and the 330 kV open switchgear at the neighboring Zaporizhzhia TPP. The IAEA also notes it is aware of social media posts and images related to the presence of troops and equipment in one of the ZNPP turbine halls and that it has reported on them previously.

The State Nuclear Regulatory Inspectorate Chair - Chief State Nuclear and Radiation Safety Inspector of Ukraine Oleh Korikov met with the IAEA Director General Rafael Grossi. At the meeting, Korikov emphasized that any intention of the Russian occupiers to bring ZNPP units to power levels for electricity generation poses a great danger of accidents with radiation consequences that will have transboundary effects. Such actions would completely contradict the terms of the license, rules and regulations on nuclear and radiation safety.

Countermeasures

The Minister of Energy Herman Halushchenko emphasized that the measures taken to strengthen the physical protection of energy facilities helped to avoid dramatic consequences of the attack, but the need for air defense remains unchanged. At a high-level meeting of the G7+ Coordination Group on Assistance to Ukraine's Energy Sector, Halushchenko said that thermal and hydroelectric generation had been damaged, and key substations were also damaged. Much of the capacity will take a long time to restore.

The Prime Minister Denys Shmyhal noted that the attack targeted both electricity generation facilities and the distribution system and added that, due to acceptable weather conditions, a number of communities and cities have already decided to end the heating season. Turning off the heating, he said, will help to better balance the energy system.

Halushchenko emphasized that a list of urgent needs is being prepared to restore the capacities of energy companies, both state-owned and private, affected by the attack. This list will be handed over to partners for processing. Halushchenko added that Ukraine already has experience of cooperation with international partners and energy equipment manufacturers to order and produce the equipment needed to restore facilities, but this is a complex process, as large energy equipment requires a long production time.

The Minister noted that one of the mechanisms of cooperation is the Ukraine Energy Support Fund, which has accumulated over 40 million EUR of available funds. In addition, according to Halushchenko, it is important to increase flexible capacities, especially for the Kharkiv and Odesa regions, in order to quickly restore generation capacity.

On March 28, Halushchenko said there are currently no drafts or developments to change electricity prices, as there is no understanding of the extent of damage to energy infrastructure, no full assessment of damage, and no understanding of the money needed for reconstruction. In addition, the Minister noted that the real amount of damage will be clear after verification, and the funds for compensation will be demanded from the aggressor in the relevant lawsuits.

In turn, the Deputy Minister of Justice Iryna Mudra said that, on April 2, the Register of Damages for Ukraine (RD4U) will officially open the process of filing claims for compensation for losses, damages or harm caused by Russian aggression against Ukraine and added that the initial launch will focus on damage or destruction of residential real estate.

MARKETS PULSE

Electricity Sector

Power system operation

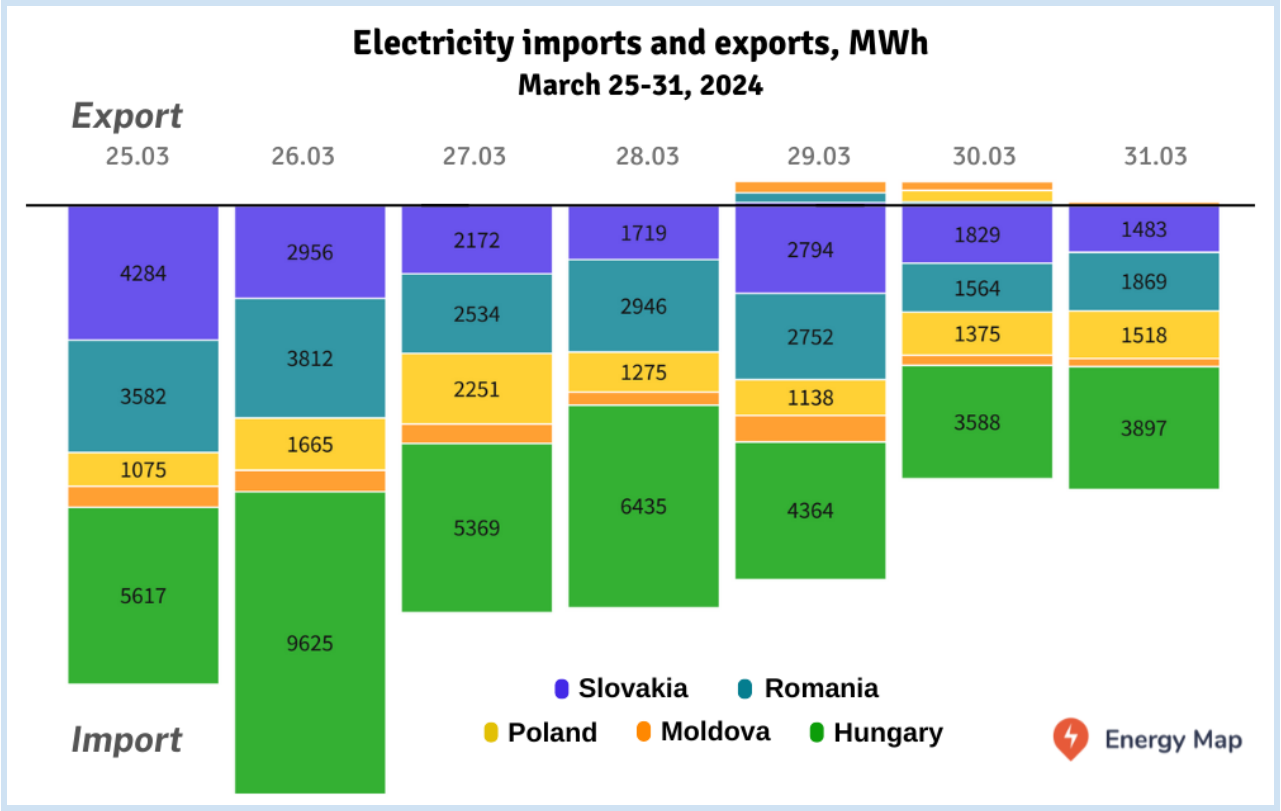
According to Ukrenergo and the Ministry of Energy, despite the Russian attacks on the grid and generation infrastructure, Ukraine's energy system is operating stably; however, several regions remain without electricity. During the week, scheduled and emergency outages were implemented in the Odesa, Kharkiv and Dnipropetrovsk regions, and during peak hours in the Khmelnytskyi region. On March 29 and 30, emergency outages were also implemented in the Zaporizhzhia, Kirovohrad, Sumy, Poltava, and Donetsk regions due to damage to the transmission system infrastructure and generation facilities.
In addition, a power unit at Khmelnytskyi NPP has been connected to the grid after a repair. Given the significant damage to infrastructure, Ukrainian cities decided to end the heating season ahead of schedule.
Due to weather conditions and grid restrictions, Ukraine's power system experienced a surplus of electricity. To maintain the safe operation of the system, Ukrenergo has been curtailing renewables and requested emergency support from Poland in the form of urgent offtake of electricity surplus

(1.6 GWh on March 28). In addition, Ukraine provided emergency support to Poland on March 27 and 29, in the form of electricity supply and offtake.

Due to ***technological disruptions***, the largest number of outages was recorded in the Odesa region, in particular, 110 kV substation equipment and a 35 kV overhead line were disconnected; on March 29, 164,000 household consumers, civil infrastructure and electric transport were cut off from electricity supply. Substations were out of service during the week in the Zhytomyr (330 kV) and Ternopil (110 kV) regions, and equipment at Ukrenergo's 750 kV substation was also out of service. Power outages were recorded in the Chernihiv region (a settlement was cut off from electricity supply), the Dnipropetrovsk region (household consumers, industry and the railway were disconnected), the Sumy region (household consumers and industry were cut off from electricity supply) and the Kirovohrad region (the railway was disconnected).

According to the NEURC and ENTSO-E, during the week, commercial imports of electricity were performed from 5 countries (Moldova, Romania, Poland, Slovakia, and Hungary) in the amount of 89.3 GWh, which is 82% more than the previous week. On March 29, electricity exports resumed in small volumes: during the night hours of minimum consumption and during the daytime hours of active operation of renewables towards Moldova, Poland, Romania, and Slovakia. The volume of exports amounted to 1.6 GWh (-85%).

Direction of interstate crossing	Supply days	Supply volume, GWh	Week-on-week dynamics	Capacity range, MW
Moldova - Ukraine	all	3.8	+21%	5-172
Poland - Ukraine	all	10.3	+368%	5-255
Romania - Ukraine	all	19	+35%	10-255
Slovakia - Ukraine	all	17.2	+28%	1-255
Hungary - Ukraine	all	38.9	+141%	15-680
Ukraine - Moldova	March 29-31	0.7	-85%	15-45
Ukraine - Poland	March 30	0.4	-68%	73
Ukraine - Romania	March 29-30	0.4	-72%	62-73
Ukraine - Slovakia	March 29-30	0.2	-88%	10-20
Ukraine - Hungary	-	-	-	-



Source: [Energy Map]

Allocation of interconnectors' capacity based on the results of daily auctions

Direction	Number of bidders/winners of the auction	Clearing price, EUR/MWh	Total revenue, thousand EUR	Ukrenergo's revenue, thousand UAH
Moldova - Ukraine	5-7	0.01-49.99	21.9	463.8
Poland - Ukraine	3-4 / 2-3	0.01-25.27	91.8	1,947.1
Romania - Ukraine	8-10	0.01-55	375.5	7,962.3
Slovakia - Ukraine	9-11 / 5-9	0.1-51.65	418.1	8,858.9
Hungary - Ukraine	3-6	0.01-45.5	697.5	14,807.4
Ukraine - Moldova	1-3 (March 29-31)	0.11 (March 29)	<0,1	0.1
Ukraine - Poland	1 (March 30)	-	-	-
Ukraine - Romania	2 (March 29)	1 (March 29)	0.4	7.7
Ukraine - Slovakia	1-2 (March 29-30)	0.01-0.45 (March 30)	0.2	4.4
Ukraine - Hungary	1 (March 29)	-	-	-

Market performance

Bilateral contracts market (BCM): Trading intensity at the Ukrainian Energy Exchange (UEEX) increases for the second week in a row. On March 25-31, UEEX held 26 one-side auctions for trading electricity (9 in commercial and 17 in specialized sections). Trades were initiated by Energoatom-Trading, Guaranteed Buyer, Ukrhydroenergo, Centrenergo, Donbasenergo, DTEK Zakhidenergo, DTEK Dniproenergo, Euro-reconstruction, Cherkaske Khimvolokno, Aquaresurs-1, universal service suppliers, distribution system operators, etc. In total, 1,929.9 GWh were sold at UEEX (+49,2% week-on-week). The monthly Base BCM index for March remained at 2,409 UAH/MWh, and the index for April increased to 2,662.5 UAH/MWh (+7.6%).

In particular, Energoatom-Trading sold 114.8 GWh of base load at prices ranging from 2,716.2 to 2,756.4 UAH/MWh with delivery on April 1-13, and 720 GWh at a weighted average price of 2,862.8 UAH/MWh with delivery in April. Guaranteed Buyer sold 56 GWh of block positions of daytime hours at prices ranging from 1,592.7 to 2,685.4 UAH/MWh with delivery in the first decade of April. Ukrhydroenergo sold 42.2 GWh of base load at prices ranging from 2,832 to 2,960 UAH/MWh, and 5.8 GWh of block positions (24-07) at prices ranging from 1,900 to 1,913.3 UAH/MWh with delivery in April.

DTEK Dniproenergo and DTEK Zakhidenergo offered block positions with a delivery period of the first decade of April and a base load from April 2024 to March 2025. As a result of the auctions, the companies sold 459.1 GWh of block positions at prices ranging from 1,969 to 3,162.7 UAH/MWh. Also, DTEK Zakhidenergo sold 175.2 GWh of base load at a weighted average price of 2,659.5 UAH/MWh. Donbasenergo sold 180 GWh of base load at a price of 2,870.2 UAH/MWh. In the specialized section, Euro-reconstruction and Cherkaske Khimvolokno both sold by 43.2 GWh of base load respectively at prices ranging from 2,635 to 2,665 UAH/MWh with delivery in April. Aquaresurs-1 sold 13 GWh of base load at a price of 2,864.7 UAH/MWh, and 3.4 GWh of block positions (08-23) at a price of 3,305 UAH/MWh with delivery in April. In the commercial sections, companies purchased/sold electricity under individual load profiles.

Day-ahead market (DAM): According to the Energy Map service, on March 25-31, DAM prices demonstrated high volatility: the deviation of hourly prices from price caps ranged from 0 to 96.4%, with an average deviation of 38.7%. The number of cases with significant price deviations (over 50%) from the price caps was observed in 36.9% of the settlement periods (hours of the week). At the same time, the number of cases when prices were close (with a deviation under 1%) or at the level of price caps significantly increased and was observed in 20.2% of the settlement periods.

The average hourly electricity price (Base DAM index) slightly decreased to 3,338.6 UAH/MWh (-3.4%), while the weighted average daily price ranged from 2,516.7 to 4,500.9 UAH/MWh. At the same time, the ratio between the Base DAM indices in the markets of Eastern European countries (Poland, Hungary, Romania, Slovakia) and Ukraine for the second week in a row significantly ranged from 0.38 to 1.35.

The total volume of electricity sales on the DAM of Ukraine moderately increased and amounted to 534.5 GWh (+15.8%). The daily trading volume varied in the range of 68.1-83.5 GWh. The DAM remained mainly in surplus: the ratio between the total daily volumes of sell and purchase bids ranged from 1.14 to 1.47, except for March 30, when the market experienced a deficit with a corresponding coefficient of 0.95. The relative decrease in the DAM surplus for the week was caused by two factors: a simultaneous decrease in total supply to 672.1 GWh (-1.5%) and an increase in demand to 547.6 GWh (+16.6%). At the same time, a deficit on the DAM was observed in 15.5% of the settlement periods. Suppliers prevailed in the purchase composition (89.5-92.8%), the share of system operators was 2.2-4.5%, and producers accounted for the rest (3.7-8.4%).

Policy and regulation

The NEURC adopted Resolution "On Approval of the Requirements for Ensuring Integrity and Transparency in the Wholesale Energy Market" pursuant to the requirements of the Law "On

Amendments to Certain Laws of Ukraine on Prevention of Violations in Wholesale Energy Markets" dated June 10, 2023 (REMIT Law). The Resolution defines:

- a list of practices that may constitute manipulation or attempted manipulation in the wholesale energy market;
- restrictions on the treatment of insider information and requirements for its publication (disclosure);
- requirements for persons who professionally organize operations with wholesale energy products;
- signals that may indicate signs of abuse in the wholesale energy market;
- provisions on the NEURC's cooperation with the Energy Community Regulators Board (ECRB).

In addition, the Regulator approved the Procedure for Submitting Information on Business and Trade Operations Related to Wholesale Energy Products. The document defines the content, scope, frequency and procedure for submitting information to the Regulator, including executed and unexecuted offers (bids) with a place of delivery (execution) in Ukraine or in other countries, and basic (fundamental) data. The relevant resolution will come into force on July 2, 2024.

In addition, pursuant to Article 9[7] of the Law "On Alternative Energy Sources", the NEURC published the Register of Electricity Facilities and Electrical Installations of Consumers (including Active Consumers) Using Alternative Energy Sources for Electricity Production. The DiXi Group team, with the support of the USAID Energy Sector Transparency Project, was involved in the development of the public register. The Register currently contains data on 1,844 facilities.

The Regulator also adopted a number of resolutions on determining the feed-in tariffs for various RES facilities (all resolutions will come into force on April 1, 2024). In addition, the NEURC approved the costs of the service to ensure an increase the electricity production from alternative sources provided by universal service suppliers in February 2024.

Gas

Gas system operation

On March 24-30, the volume of gas transit through the territory of Ukraine amounted to 40.4-42.7 mcm per day, i.e. 37-39% of the capacity contracted by Gazprom (109 mcm per day). In the reporting week the average daily transit was 42.1 mcm (almost corresponds to the indicator of the previous week).

At the same time, in the reporting week physical imports of gas from Hungary amounted to 34.4 mcm (-15%). Probably, these flows or part of them pass through Ukraine in transit and are further transported to Moldova, Poland or Slovakia.

Gas exports from Ukraine continued. In the circumstances of the ban on the exports of Ukrainian-produced gas, it can be: a) gas volumes withdrawn from the storage facilities by non-residents, who previously injected it for storage in the "customs warehouse" mode, b) transit of non-Russian gas through the territory of Ukraine. The volume of such exports on March 24-30 was 6.6 mcm (-8% WoW), which were transported through the Drozdowicze/Hermanowice interconnection point with Poland. Probably, physical exports also took place to Slovakia and Moldova, but it is impossible to determine its volumes due to parallel transit flows of Russian gas.

Commercial flows into the Ukrainian system from Hungary almost corresponded to the physical indicators (34.7 mcm). In particular, 12.5 mcm arrived in the "customs warehouse" mode and 18.2 mcm in the short-haul mode (service of the TSO, which provides a discount in the transmission tariff for transit over short distances).

Commercial exports through the VIP Ukraine-Poland were performed at 7.9 mcm (2.3 mcm of which in the "customs warehouse" mode). It is also likely that part of the volumes exiting the Ukrainian system to Moldova is the transmission of gas, which either was stored by foreign companies in Ukrainian storages or was previously imported from Hungary. This assumption is due to the fact that the volumes of gas transported from the system in the "customs warehouse" mode exceeded the indicators of commercial exports to Poland and amounted to 27.8 mcm (-4%). Also, in the reporting week, 17.8 mcm were transported to the exit interconnection points in the "short-haul" mode (-8%), which is probably the transit of gas from Hungary.

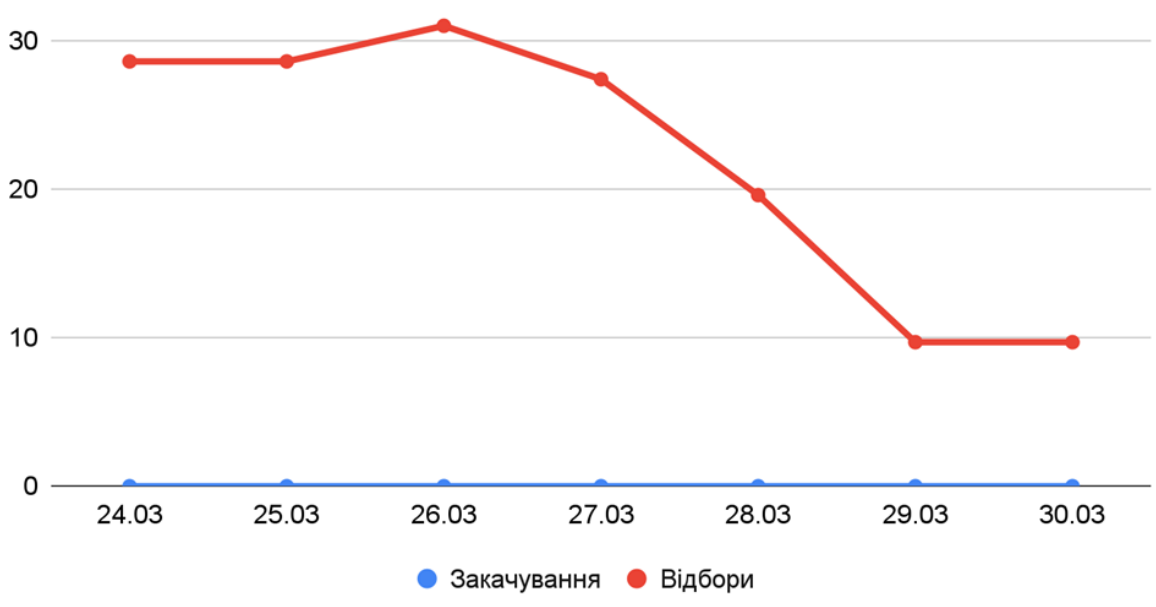
During the shippers' meeting - an annual meeting with representatives of TSO customers - GTSOU shared priorities for 2024. In particular, the TSO plans to maintain the current conditions for transmission system use for the entire 2024/2025 injection season and to diversify available gas transmission routes to the Ukrainian gas transmission system. Also, GTSOU, together with neighboring TSOs, will hold auctions for access to new (increased) capacity in July 2024 in order to create firm capacity for gas transmission from Poland and from the Trans-Balkan route as part of the Vertical Corridor initiative.

Underground storage facilities

According to the AGSI platform, as of March 30, 3.35 bcm of gas was accumulated in the Ukrainian storage facilities (-0.52% as compared to March 23). It corresponds to 11.1% of the total working capacity, i.e. without 4.662 bcm of "long-term storage" buffer gas. Withdrawals from storage in the reporting week amounted to 154.6 mcm; the average daily withdrawal amounted to 22.1 mcm (-34%), by the end of the week it was reduced by three times.

Also, the UGS operator JSC Ukrtransgaz and GTSOU, with the support of the Energy Community, held a shippers' meeting with more than 50 representatives of foreign energy companies in Vienna. At the meeting, representatives of Ukrainian operators presented plans for the upcoming injection season, the advantages of Ukrainian gas storage facilities and the tariff policy for the next year. Also, the Ukrainian side announced that a stress test results will be published in April, which will confirm the reliability of the functioning of the Ukrainian underground storages and transmission system even under enemy attacks. In addition, Ukrainian companies reported on planned changes to the Gas Storage Code, which are aimed at improving the work of companies working with Ukrtransgaz.

Natural gas withdrawals and injections into/from Ukrainian storage facilities, mcm



Source: AGSI (all indicators calculated by dividing the primary indicators in MWh by the conversion factor of 10.595 kWh/cm)

Gas market performance

In the trading sessions of March 25-29, ten companies (seven buyers and three sellers) submitted bids for purchasing gas at the Ukrainian Energy Exchange (UEEX). In the reporting period, UEEX received bids for 289 mcm of gas (+7% WoW) with a total starting cost of 3.22 billion UAH (+7%). The weighted average starting price of bids was 11.15 UAH/cm (excluding VAT, +0.2%).

In the monitoring period, 47.3 mcm at a weighted average price of 11.15 UAH/cm (without VAT) (+0.2%) were purchased. 89.8% of the resource was sold by Ukrnafta, 8% - was bought by GTSOU LLC, 1.5% was purchased by GSC Naftogaz Trading LLC, 0.7% - by PJSC "AK Kyivvodokanal". 98.5% of gas was sold with transfer at a virtual trading point, 1.5% - with transfer in storages. 98.5% was sold with delivery in April 2024, 1.5% - in March 2024.

Policy and regulation

The government amended the Order "On attracting a loan from the European Bank for Reconstruction and Development for the implementation of the investment project "Purchase of workover rigs and improvement of energy efficiency of Ukrgazvydobuvannya JSC". The changes provide that the Ministry of Finance must conclude an agreement with Ukrgazvydobovannya to repay the debt owed to the state for the fulfillment of guarantee obligations and provide for ensuring fulfillment of obligations on loan servicing and repayment by pledging gas belonging to Naftogaz and located in storages, in the amount of 150% of the loan amount. At the same time, the Ministry of Finance should conclude a pledge agreement for natural gas with Naftogaz.

The NEURC approved the gas transmission development plan for 2024-2033 for GTSOU. The planned amount of investments for 2024 is equal to 813 million UAH, for 2025-2026 - 11.42 billion UAH, for 2027-2033 - 31.5 billion UAH.

Other

Naftogaz CEO Oleksii Chernyshov, stated that the early termination of the heating season in Ukraine could potentially save 500 mcm of gas.

The Asset Recovery and Management Agency (ARMA) appealed to the National Security and Defense Council and the Verkhovna Rada with a call to resolve the issue of extraction at the Sakhalinske field at the legislative level. To remind, PrJSC VK Ukrnaftoburinnia, which holds a special permit for the mentioned field, was transferred by ARMA to the management of the state-owned Ukrnafta by concluding a management agreement. However, the special permit was annulled by the decision of the Sixth Administrative Court of Appeal. At the same time, the Supreme Court, by its decision of December 12, 2023, refused to proceed with the cassation appeal of ARMA, and also refused the cassation appeal of Ukrnaftoburinnia. Due to the cancellation of the special permit and the suspension of extraction from December 2023, Ukraine loses almost 500 mcm of natural gas and about 10 billion UAH in taxes and dividends annually.

International Cooperation

Ukraine and Poland signed a Memorandum of Cooperation in the energy sector. The document provides for, inter alia, joint work related to the development of climate-neutral technologies, distributed generation, and natural gas and petroleum products transmission. Special attention is paid to energy security through market integration and development of climate-neutral electricity generation, the formation of projects of common interest and the development of cross-border interconnections.

The main topic of the meeting between the Deputy Prime Minister, the Minister of Energy, Business and Industry of Sweden Ebba Busch and the Minister of Energy of Ukraine Herman Halushchenko was assistance to the Ukrainian energy sector, as well as areas for deepening cooperation in the fields of nuclear energy and renewable energy sources. Since March 2022, Ukraine has received 97 shipments of energy equipment from Sweden totaling over 1,126 tons, including 222 generators, current and voltage transformers, and other electricity and gas equipment for restoration works. In addition, Sweden contributed 25.27 million EUR to the Ukraine Energy Support Fund. Part of the Swedish contribution has already been disbursed to provide the necessary assistance to the distribution system operators in Zaporizhzhia and Mykolaiv regions, as well as for the needs of the transmission system operator. Approximately 8 million EUR of the Swedish grant is intended to finance the implementation of decentralized renewable energy solutions, including solar panels, batteries, micro-grids, and energy efficiency measures for social services and households.

On March 28, the Minister of Energy of Ukraine Herman Halushchenko participated in a regular high-level meeting of the G7+ Ukraine Energy Coordination Group. The online meeting was chaired by the Assistant Secretary of State of the United States, Geoffrey Pyatt, and attended by representatives of G7+ member states, the European Union, the Energy Community, and the United Nations Development Program. The participants of the meeting confirmed their readiness to continue supporting the Ukrainian energy sector. Geoffrey Pyatt assured that the relevant work is underway at the level of the G7+ and the United States itself. Davide La Cecilia, the Special Envoy of the Minister of Foreign Affairs of the Republic of Italy for the Reconstruction and Resilience of Ukraine, emphasized that after the massive attacks, support to the Ukrainian energy sector should be strengthened, which is what Italy, which currently presiding over the G7, is working on.

The Administrative Council of the Council of Europe Development Bank has decided to allocate 100 million EUR to Ukraine for a compensation program for destroyed housing. Negotiations on the signing of the Framework Loan Agreement are currently underway. It is worth noting that since the launch of the state compensation program, more than 11 thousand applications have been submitted, and since January, 1637 Ukrainian families have already purchased new apartments for the total amount of 3.4 billion UAH.

The report was prepared on the basis of carefully checked and analyzed reports from more than 100 official sources: ministries, state agencies, network operators and energy companies. The information was collected from official websites and social media pages, and in some cases, media reports. For subscription, comments and other questions, please write to author@dixigroup.org

SUPPORT UKRAINIAN ENERGY SECTOR

Ukraine urgently needs emergency energy equipment to restore energy supply in the regions affected by war. More than 12,000 items are on the list of requested emergency energy equipment. If your company, association or country is ready to help, please contact the Energy Community Secretariat's Ukraine Support Task Force.

Energy Community Homepage (energy-community.org)

SUPPORT UKRAINIAN ARMY

To financially support the Armed Forces of Ukraine, please follow the link (the National Bank of Ukraine special account).