



Russian War Against Ukraine: Energy Dimension

DiXi Group alert

(status as of 12:00, May 17)

Stop russian nuclear terrorism!

Stop the atrocities!

Introduce full embargo on russian oil and gas imports now!

#StopRussianAggression

#StandWithUkraine

Summary

- **App. 689,000 consumers all over Ukraine did not have electricity supply, and 207,000 consumers remained without gas supply.**
- According to the Zaporizhzhia Regional Military Administration, **the occupiers were instructed to prepare the city of Energodar for the so-called "referendum" on accession to Russia.** In addition, the Russian military were building fortifications around the city.
- **At the Chernobyl NPP site, anti-accident drills have been resumed** to check the readiness of personnel for emergencies and accidents, taking into account the state of ChNPP facilities after the occupation and the available number of personnel.
- **In 2022, Guaranteed Buyer paid 14.2 billion UAH to renewable energy producers under the feed-in tariff:** 6.7 billion UAH for 2021 volumes and 7.4 billion UAH for 2022. The average level of payments for March-May 2022 is 19-20%.
- Ukraine submitted its proposals to the REPowerEU strategy, drawing attention to the export potential of energy system. As the Deputy Minister of Energy Mykola Kolisnyk noted, **about half of 31 bcm gas storage capacity be offered to European companies for seasonal**

or strategic storage; while exports of electricity from Ukraine could replace 17% of Russia's gas exports to the EU.

- At a meeting of the EU Foreign Affairs Council, the Minister of Foreign Affairs Dmytro Kuleba said **the only way to end the war is a complete blockade of Russian exports, including an embargo on Russian oil, gas and coal.**

Attacks:

Donetsk region

In the last 24 hours, 19 settlements of the Donetsk region, including Mariupol, Avdiivka, Marinka and Toretsk, were shelled from aircraft, Iskander missile systems, multiple rocket launch systems "Uragan" and heavy artillery, with 11 civilians killed and 8 injured, as the National Police [reported](#). The shelling damaged at least 48 residential facilities, including homes, schools, factories and critical infrastructure.

The General Staff of the Armed Forces of Ukraine [reported](#) that the Mariupol garrison had fulfilled its combat mission, and commanders had been ordered to save the lives of personnel. 53 severely injured soldiers were taken to a medical facility in Novoazovsk (occupied territory), another 211 were evacuated through the humanitarian corridor to the village of Olenivka, with expected return to the territory controlled by Ukraine through an exchange of POWs. Measures to rescue defenders who remain on the territory of the Azovstal Iron & Steel Works continued.

The advisor to the mayor of Mariupol Petro Andryushchenko [reported](#) that the Russian occupiers in Mariupol were preparing a large-scale disinformation campaign of "witnesses testimony" that "the city was destroyed by the Ukrainian military". To carry out such an operation, the Russian occupiers announced the start of registration for compensation for destroyed housing and/or loss of a family member. Compensation for housing is reported at 500,000 RUB (app. 6,000 USD), for the loss of family member - at 3 million RUB (app. 33,000 USD). When submitting a written statement, Mariupol residents must state that the property was "destroyed by the Ukrainian military" and that relatives were "killed by the Ukrainian army". In case of refusal or absence of such a mark, the occupiers announced no compensation would be made. Andryushchenko stressed that Russia should spend at least 2.5 billion USD to pay "compensation", which is impossible in the current state of Russia's economy.

Luhansk region

The situation in the Luhansk region became more complicated - the enemy was attacking more often and more intensively, [reported](#) the Luhansk Regional Military Administration Head Serhii Haidai. [As of May 17](#), 818 transformer substations were destroyed or disconnected in the region, and only 1 of 42 settlements in the controlled territory was supplied with electricity. Due to the destruction of the main gas pipeline near the city of Severodonetsk, only 5 settlements had gas supply (incl. 2 partially). There had been no water supply in the whole region for more than a week, and rescue services were delivering drinking water to residents.

During the day, the shelling in Severodonetsk [destroyed](#) a hospital, the building of the research and production association "Impulse", a shop and 4 multi-apartment buildings; 4 more houses were destroyed in Rubizhne and 2 in Lysychansk. At least two air strikes were inflicted by the Russians on the

villages of the Popasna community, and 14 residential buildings were destroyed. Artillery shelling [damaged](#) 15 houses in the cities of Hirske and Zolote. After an unsuccessful attack on the Hirske community, the Russian troops were forced to withdraw, same in the area of the village of Syrotyne near Severodonetsk.

Kharkiv region

[According to](#) the State Emergency Service of Ukraine, during the day, there were 11 fires recorded as a result of enemy's shelling, including 6 in the Kharkiv district and 5 in the Chuhuiv district. The house of culture in Derhachi was damaged; residential buildings, a garage and outbuilding in the village of Tsyrkuny as well. In the afternoon of May 16, a Russian shell [hit](#) a warehouse where ammonium nitrate was stored, with a column of smoke released. Experts have recorded that the concentration of chemicals in the explosion area was within the standards and did not pose a threat to the residents. In [the city of Izyum](#), the Russian occupiers intensified electronic warfare, causing problems of communication for the residents, volunteers and local authorities. The city suffers from humanitarian disaster, as for more than a week, the occupiers had been banning civilians from leaving Izyum even on own vehicles.

Sumy region

On the morning of May 17, the Russian troops launched 5 missiles at civilian targets in the city of Okhtyrka, damaged private homes, educational and religious sites, set fire to warehouses, and injured at least 5 civilians, [reported](#) the Sumy Regional Military Administration Head Dmytro Zhyvytskyi. [According to](#) the General Staff of the Armed Forces of Ukraine, in the area of the village of Bilokopytove, the Russian enemy carried out mortar strike on units of the State Border Guard Service of Ukraine.

Chernihiv region

On May 16, the Russian troops once again shelled border settlements in the Chernihiv region - about 30 explosions were recorded in the direction of the village of Mykolaivka and 7 explosions near the village of Hremyach, there were no casualties among the border guards, as the Operational Command "North" [reported](#).

On the morning of May 17, the Russian troops launched a missile strike on the village of Desna in Chernihiv region, where the military training center is located, with killed and injured people, [reported](#) the Chernihiv Regional Military Administration Head Vyacheslav Chaus.

Odesa region

On May 16, the Ukrainian troops discovered and destroyed an X-type cruise missile fired by a fighter of the Russian occupiers in the direction of Odesa, as the Operational Command "South" [reported](#). [According to](#) the Odesa Regional Military Administration spokesman Serhii Bratchuk, several people were detained on suspicion of cooperation with the enemy to prepare for provocations in the region. Bratchuk stressed that the region was in a zone of high probability of missile strikes by the Russian strategic aircraft from Crimea and ships of the Black Sea navy.

Mykolaiv region

The Russian troops continued to carry out attacks with heavy munitions and missile attacks on settlements of the Mykolaiv region, as the Operational Command "South" [reported](#). The central part of the city of Mykolaiv was fired with multiple rocket launch systems with use of the forbidden cluster munitions. As a result of the indiscriminate shelling, a gas pipeline, public transport stops, shops, a shopping center and vehicles were damaged. Some of the cluster bombs have not detonated, and the State Emergency Service

of Ukraine specialists were working to eliminate the consequences. [According to](#) the Mykolaiv Regional Military Administration, as of May 17, since the beginning of the Russian invasion 3,457 residential facilities were partially or completely damaged in the region, in particular 2,435 facilities of housing stock, 283 electricity, 142 gas, 53 heat and 16 water supply facilities.

Kherson region In the Kherson region, the Russian occupiers were introducing a system of passes for residents, justifying their actions with an aim of "facilitating" the opportunity to leave the region, [reported](#) the First Deputy Head of the Kherson Regional Council Yurii Sobolevskyi. Despite the terror and bans, pro-Ukrainian moods in the occupied territories remained high, as the Operational Command "South" [reported](#).

Zaporizhzhia region [According to](#) the Zaporizhzhia Regional Military Administration, during the day, the enemy damaged residential facilities in the settlements of Vremivka, Novosilka, Mala Tokmachka and Novoandriivka. The enemy's efforts were focused on the destruction of industrial and civilian facilities, including the shelling on the village of Malynivka. As a result of the attacks, an outbuilding burned down and an underground gas pipeline in the village of Preobrazhenka (Polohy district) damaged. Rescuers extinguished the fire, after which the relevant services eliminated the problem with the pipeline.

The occupying authorities were trying to get loyalty from the residents of Melitopol by blackmail - employees of public institutions were threatened with dismissal for refusing to cooperate. In Energodar, the occupiers were preparing for the so-called "referendum", aiming to incorporate the Zaporizhzhia NPP to Rosatom. Raids on the residents' apartments continued, men were taken in an unknown direction.

Lviv region On the night of May 17, the Russian troops launched a missile strike on a military infrastructure facility in the Yavoriv district, close to the border with Poland, [reported](#) the Lviv Regional Military Administration Head Maksym Kozytskyi. Kozytskyi later [clarified](#) that the enemy had attacked the infrastructure of the Lviv Railway regional branch, damaging infrastructure. 3 cruise missiles were destroyed by Ukrainian air defense forces.

Nuclear and Radiation Safety:

As of 09:00 on May 17, all operating NPPs of Ukraine were operating normally; radiation, fire and environmental conditions at the sites of stations and adjacent areas were within current standards.

Chornobyl NPP Exclusion Zone

Ukraine has [received](#) technical assistance from the U.S. Government through the IAEA Response and Assistance Network (RANET) - portable spectrometers to determine the type and radionuclide composition of ionizing radiation for nuclear safety, equipment for restoration of regulatory control, etc. Also, a number of countries (Australia, U.S., Romania, Hungary, France, Germany, Switzerland, Israel) submitted their proposals for the supply of additional equipment in the framework of technical assistance to ensure nuclear and radiation safety of Ukraine.

Meanwhile, anti-accident drills have been [resumed](#) at the ChNPP site to check the readiness of personnel for emergencies and accidents, taking into account the state of ChNPP facilities after the occupation and the available number of personnel. The practical actions of the operational personnel and interaction during a fire at the facility with the fire and rescue unit and the military unit of the National Guard of Ukraine were also trained.

Zaporizhzhia NPP

For the 75th day in a row, the Zaporizhzhia NPP and the satellite city of Energodar have been under the control of Russian terrorists, who are constantly exerting physical, psychological and informational pressure on the station's employees and residents. ZNPP power units are serviced by Ukrainian personnel with proper rotation, but the plant's nuclear and radiation safety are under constant threat. According to the Zaporizhzhia Regional Military Administration, there are signs of attempts to [incorporate](#) ZNPP to Rosatom and destabilize Ukraine's energy system.

As of May 17, the radiation background on the territory of the ZNPP industrial site and the sanitary protection zone of the station remained within the [standards](#); gamma background in the Zaporizhzhia region is also stable (7-13 µR/h) and does not pose a threat to life and public health.

[According](#) to the Zaporizhzhia Regional Military Administration, the occupiers were instructed to prepare Energodar for the so-called "referendum" in order to create an information picture, that the city's residents allegedly want accession to Russia. In addition, it was reported that the Russian military were digging trenches and building fortifications around the city.

The presence of Russian terrorists at nuclear facilities poses extremely high threats to nuclear and radiation safety on a global scale! Ukraine demands to recognize the actions of Russia and Rosatom as nuclear terrorism, which aims to intentionally violate the security of nuclear power plants, international law and basic human rights with the aim of genocide, ecocide and encroachment on the country's sovereignty.

We call on international partners to increase pressure on the IAEA, whose actions may prevent acts of nuclear terrorism by Russia. At the same time, it is critical to minimize Russia's influence on IAEA policies and activities, in particular by removing all Russians from key positions in the Agency's Secretariat and restricting their access to information about Ukraine's nuclear power plants.

We also emphasize the need to impose tough sanctions on the management, staff, products, international projects of Rosatom and, in general, the nuclear industry of the aggressor country!

Electricity Sector:

Power system operation

For over 2 months, Ukraine's power system has been stably operating in trial synchronous mode with the Continental Europe network (ENTSO-E). According to the Ukrenergo, the level of consumption in the power system is stable, and its dynamics correspond to the season. Commercial exports of electricity to Poland via the Dobrotvirsk TPP - Zamosc transmission line [remained](#) at the

stable schedule with a maximum level of 210 MW during the day. Exports to Moldova [fluctuated](#) during the day and were performed at an average level of about 100 MW.

In addition, there are unidirectional (with Romania) or bidirectional (with Hungary and Moldova) technical [cross-borders](#) flows between the energy systems. The current capacity of cross-border networks between the power systems of Ukraine and ENTSO-E is about 2 GW, however, the trial mode of synchronous operation does not provide for full-fledged commercial exports/imports of electricity.

Ukrenergo [continued](#) to rebuild the damaged infrastructure. In particular, in the south-eastern region, two 330 kV high-voltage lines were put into operation after repairs, and cleaning of their routes continued. Works have begun at one of the 330 kV substations in the southern region with restoration of a damaged building structure. In the northern region, at one of the 330 kV substations, installation of a switch has been completed and programming of the automatic protection system was almost finished. In the Kyiv region, at the 750 kV substation, equipment is being unloaded to replace the damaged one; the TSO crew together with sappers inspected the 750 kV line section, and the installation of tower foundations and replacement of metal supports was underway. At one of the 330 kV substations in the western region, repairs of the switchgear began, and on the line departing from it, repairs of cables started after access was granted to emergency crews.

Electricity market performance

On May 16, [Guaranteed Buyer](#) made another payment to renewable energy producers under the feed-in tariff (for 10 days of May 2022). In total, 14.2 billion UAH was paid to RES producers in 2022: 6.7 billion UAH for 2021 volumes and 7.4 billion UAH for 2022. At the same time, in March-May 2022, the average level of payments to such producers is [19-20%](#); as of May 16, the debt of Ukrenergo to Guaranteed Buyer for the service under PSO for RES producers is 10 billion UAH.

Day-ahead market (DAM): For May 17, after 4 days of gradual increase, the weighted average settlement price [decreased](#) slightly and amounted to 2,345.76 UAH/MWh (-1.1% vs the previous trading day). At the same time, the dynamics of exchange prices in the Eastern European markets was diverse and, in general, did not cause a significant change in their gap with Ukraine. The prices in Slovakia, Hungary and Romania were 3.2 times [higher](#) than the Base DAM price index of Ukraine, while the spread to Poland is consistently lower at 2.4 times.

The total volume of trading on DAM continued to [increase](#) and, as for May 17, reached 15,981.8 MWh (+33.8% vs the previous day), although it still remains low. At the same time, the opposite dynamics of a significant decrease in supply to 86,198.3 MWh (-2.8% vs the previous day) led to further decrease in market surplus - the gap with the volume of purchase bids declined from 7.5 to 5.4 times. The [structure of electricity](#) purchase on DAM has changed slightly: 79.5% belonged to suppliers, 20.35% to system operators, 0.2% to producers and traders.

Intraday market (IDM): On May 16, the weighted average price of electricity on IDM continued to increase slightly and amounted to 2,812.10 UAH/MWh (+4.2% vs the previous day). At the same time, after decreasing for 3 consecutive days, the total volume of trading [increased](#) to 125.6 MWh (+8.6% vs the previous day). At the same time, the opposite declining dynamics of supply - up to 35,644 MWh (-17.6%) led to a reduction in market surplus, which, however, remains excessive - the gap with the volume of purchase bids was 264 times.

Disruption and resumption of supply

[According](#) to the Ministry of Energy, as of May 16, 811 settlements were disconnected from electricity, a total of app. 689,000 consumers. During the day, electricity supply was resumed to app. 111,000 consumers.

Large-scale power supply disruptions and, consequently, active recovery works were taking place:

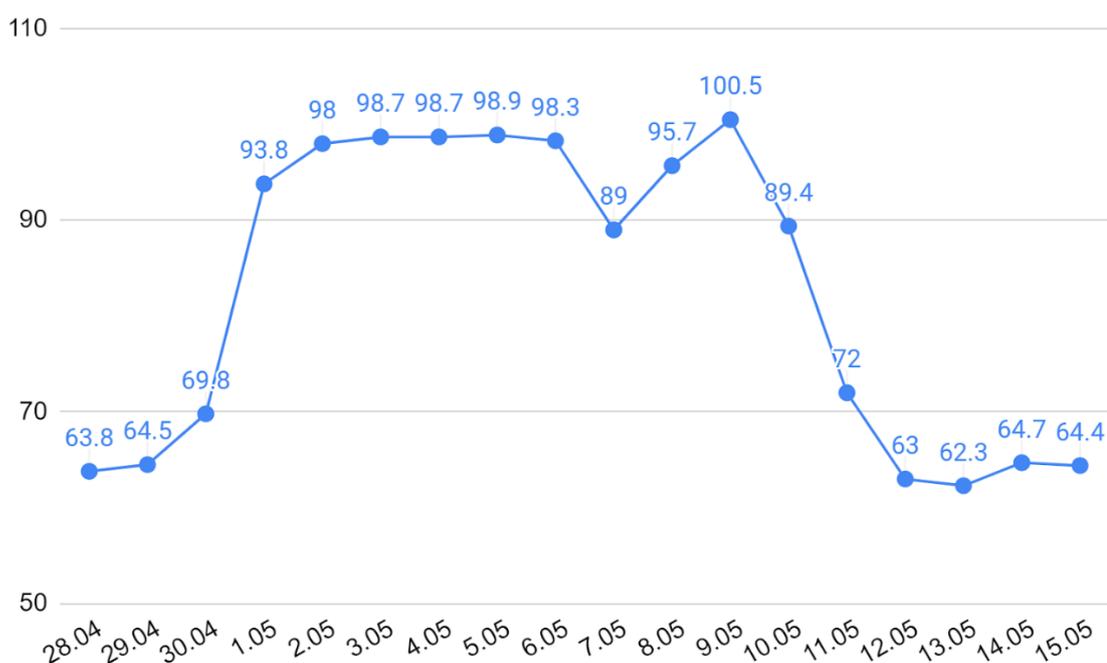
- in the **Donetsk region**, according to DTEK, 280 settlements were left without electricity (according to the Cabinet of Ministers, 334,000 consumers), while supply to 14,458 consumers in 6 settlements was resumed during the day;

- in the **Luhansk region**, [according](#) to the Cabinet of Ministers, over 128,000 consumers were left without electricity supply;
- in the **Kharkiv region**, [according](#) to the Cabinet of Ministers, 144 000 consumers were still with no electricity supply; supply to 7,000 consumers was resumed during the day;
- in the **Kyiv region**, [according](#) to DTEK, on May 9-15, supply to over 5,800 consumers in 5 settlements was resumed; 1,353 consumers in 5 settlements were still left with no electricity supply;
- in the **Zaporizhzhia region**, as of 07:00 on May 17, 21,145 consumers in 69 settlements were left [without electricity supply](#); supply to 671 consumers was resumed during the day;
- in the **Mykolaiv region**, [according](#) to the Cabinet of Ministers, supply to 800 consumers was resumed during the day;
- in the **Dnipropetrovsk region**, [according](#) to the Cabinet of Ministers, supply to 19,800 consumers was resumed during the day;
- in the **Chernihiv region**, [according](#) to the Cabinet of Ministers, supply to 64,000 consumers was resumed during the day;
- in the **Odesa region**, [according](#) to the Cabinet of Ministers, supply to 3,800 consumers was resumed during the day;
- in the **Sumy region**, [according](#) to the Cabinet of Ministers, supply to 3,300 consumers was resumed during the day;
- there was no up-to-date concentrated information on power supply in the **Kherson region** at the time of the review preparation.

Gas Sector:

As of May 15, the transit of Russian gas through the territory of Ukraine almost did not change compared to the previous day and amounted to 64.4 mcm. These volumes account for much less than the capacity contracted by Gazprom (109 mcm per day). There were no transit flows via the Sokhranivka interconnection point. Physical imports of gas from the EU were reported from the Hermanowice interconnection point (virtual interconnection point "Ukraine-Poland") at 1.84 mcm.

Gas transit through Ukraine (at Sokhranivka and Sudzha interconnection points), mcm



Source: [GTSOU](#)

Disruption and resumption of supply

The **Donetsk, Luhansk, Zaporizhia, Kharkiv, Kyiv, Chernihiv and Mykolaiv regions** had the most challenging situation in gas supply. [According](#) to the Cabinet of Ministers, as of May 16, 207,000 consumers were left with no gas supply. Gas supply to 9,400 consumers was restored during the day.

In the **Donetsk region**, the local DSO [reported](#) 347 consumers were forcibly disconnected due to the hostilities, while gas supply was restored to 69 consumers.

[According](#) to the **Luhansk** Regional Military Administration Head Serhii Haidai, app. 21,000 consumers in 5 settlements (2 of them partially) remained with gas supply.

In the **Kyiv region**, as of the morning of May 17, gas supply was [restored](#) in 120 settlements (119 completely and 1 partially) to 148,075 consumer facilities. The repairs continued only in the city of Irpin (gas supply was restored to 99% of consumers already).

In the **Kherson region**, as of 17:00 on May 16, the Vysokopillia community, partially the Velyka Oleksandrivka, Novovorontsovka and Stanislav communities [remained](#) without gas supply. In the village of Stanislav, a gas pipeline was blown up two days ago due to attacks by the occupiers. Many communities had problems with LPG supply.

In the **Mykolaiv region**, as of May 17, due to Russian aggression, 142 gas infrastructure facilities were [damaged](#), and 3,444 consumers were left without gas supply. The local DSO [continued](#) to operate in emergency mode.

[According](#) to the **Kharkiv** Regional Military Administration, restoration works continued in Derhachi and Zolochiv. Gas distribution has been restored to 2,500 consumers in the city of Derhachi, while in the Zolochiv community, 7 villages (over 1,000 households) were reconnected. Restoration works were also underway in the city of Chuhuiv. In total, gas supply was restored to 30,000 consumers last week.

In the **Chernihiv region**, the local DSO specialists [repaired](#) a 200 mm valve damaged after the tank's collision. As a result, gas supply was restored to 2,000 consumers in the city of Chernihiv. Restoration works were also carried out in the village of Novoselivka, where the emergency crews diagnosed the networks and replaced a section of gas pipeline; 120 households were reconnected to gas supply.

In the **Sumy region**, a missile strike by the Russian army [caused](#) an emergency shutdown of gas distribution points, and the local DSO inspected the networks in the epicenter area. No damage or leaks were detected.

Operational information on gas supply in the **Zaporizhzhia region** was not available at the time of the review preparation.

Countermeasures of Ukrainian Companies and Public Authorities

The Minister of Foreign Affairs of Ukraine Dmytro Kuleba [appreciated](#) the readiness of the EU countries to start negotiations on the development and implementation of the 7th sanctions package. [Speaking at a meeting](#) of the EU Council (Foreign Affairs Council), Kuleba said the only way to end the war is a complete blockade of Russian exports, including an embargo on Russian oil, gas and coal. "It is unacceptable to look for loopholes to justify paying for gas in rubles. We see and know everything. We need to think about how to get rid of Russian gas, and not look for opportunities to buy it", the minister added.

The Presidential Office of Ukraine [reported](#) on the development of the concept of concluding an international agreement with partner countries on a mechanism for compensation for damages, caused by Russia's war on Ukraine. The agreement would allow to synchronizing the actions of international partners and Ukraine in terms of bringing Russia to justice for damages and penalty of financial compensation.

The Prime Minister of Ukraine Denys Shmyhal [held a](#) meeting with representatives of fuel traders. As reported, the main priority of the government is to provide citizens with fuel and avoid market abuse. In particular, the procedure for border crossing by road and rail transport with fuel has been simplified. The First Deputy Prime Minister and Minister of Economy Yulia Svyrydenko noted that the number of fuel trucks crossing the border every day increased by a third, as compared to early May. Shmyhal also instructed the Ministry of Economy and the Ministry of Energy with the relevant business association to develop proposals on dealing with the crisis in the fuel market.

Ukraine submitted its proposals to the REPowerEU strategy, drawing attention to the export potential of the Ukrainian energy system. In particular, the Deputy Minister of Energy Mykola Kolisnyk [noted](#) that Ukraine can increase the reliability of gas supply to Europe by its underground storage facilities with a total capacity of 31 bcm, about half of which can be offered to European companies for seasonal or strategic gas storage. In addition, Kolisnyk noted that exports of electricity from Ukraine could replace 17% of Russia's gas exports to the EU.

According to the Deputy Head of the Presidential Office Kyrylo Tymoshenko, the government [allocated](#) 100 million UAH from the State Budget special fund for reconstruction of the Zhytomyr region. The funds will be used to repair utilities and systems for district heating, gas, water, and electricity supply; dismantle damaged structures; repair roofs, replace windows and doors in residential sector; eliminate potholes on roads; and other needs.

On May 17, a [meeting](#) of the National Energy and Utilities Regulatory Commission was conducted with the following decisions:

- consideration of "settlement of urgent issues of economic activity of licensees during the martial law" was postponed;
- approved the [resolution](#) on postponement, for the period of martial law, of the payments by universal service suppliers for electricity generated by installations of private households for February 2022 until May 25, 2022 (for other settlement periods, i.e. calendar months, - not later than 55 days after their end);
- approved the [draft](#) draft amendments to the Market Rules (on settlements in the balancing market using escrow accounts to repay debts of market participants to the TSO and increase the transparency of settlement operations) which will be the subject of public discussion;
- approved [the Methodology](#) for determining the maximum (marginal) fee for distribution services in small-scale distribution systems and amendments (to the Transmission System Code, Distribution Systems Code, Retail Electricity Market Rules) on the operation of small-scale distribution systems;

as part of the [additional](#) agenda, amendments were made to the resolution on the tariff for purchase and sale operations at DAM and IDM (Market Operator tariff) in 2022 (the [draft](#) provided for an increase from 3.30 to 13.31 UAH/MWh (excluding VAT)).

Sources:

The alerts are developed based on collected, verified, and analyzed information reports of over 100 official sources: ministries, state agencies, network operators, and energy companies. Information was collected only from official websites and official social media accounts.

For subscriptions, comments and other questions, please email to: author@dixigroup.org

SUPPORT UKRAINIAN ENERGY SECTOR

Prior to transferring funds, please [email to the Energy Community Secretariat](#)

SUPPORT UKRAINIAN ARMY

To financially support Heroic Ukrainian Army, please follow the [link](#) (The National Bank of Ukraine)