

## Daily Alert

**Russian War Against  
Ukraine: Energy Dimension**

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**#StopRussianAggression**  
**#StandWithUkraine**

**Summary**

- On the night of 17 March, the Russian military attacked Ukraine with drones. The defence forces destroyed 11 of the 16 UAVs, yet 2 drones impacted a critical infrastructure facility in Novomoskovsk (Dnipropetrovsk region).
- According to Ukrenergo, due to significant damage to the grids, restrictions are applied in the Zhytomyr region. Also, subject to significant increase in consumption, restrictions are possible in the Kyiv region and the city of Kyiv.
- The Cabinet of Ministers approved Dmytro Lyppa as the General Director of Gas Transmission System Operator of Ukraine LLC. Before, Lyppa was the CEO of Kametstal metallurgical plant (Metinvest Group). Meanwhile, the Energy Community Secretariat has concerns about the financial condition of GTSOU and considers it necessary to liquidate its parent company (Mahistralni Gazoprovody Ukrainy JSC).
- The Security Service and the Economic Security Bureau conducted searches at offices of 16 gas DSOs and RGC group. Reports say about the illegal use of tariff revenues for the purchase of gas to cover production and technical losses, with losses to the state at almost 3.5 billion UAH (in 2021 only). At 2 DSOs, new management was appointed by Naftogaz (as its subsidiary was granted management rights of seized shares). RGC believes the searches were carried out on false charges, and the change of management is a raider capture.
- Euro-Reconstruction LLC, operator of the Darnytska CHP, denied the media reports about the alleged sale of coal from state-owned mines at discounted prices. The

Ministry of Energy asked the media to refute the inaccurate information presented in the relevant article.

- The President signed the law on development of high-efficient cogeneration. Inter alia, it provides for the introduction of guarantees of origin for electricity produced by such units.
- As part of the green transition, Ukraine is considering construction of up to 20 small modular reactors to replace TPP units destroyed - so the Minister of Energy Herman Halushchenko.
- Energoatom and Cameco signed contracts to expand cooperation. Under the first agreement, Cameco will cover 100% of Energoatom's demand for uranium hexafluoride (UF<sub>6</sub>) in 2024-2035 by supplying it and conversion services. The second agreement provides for the sale by Energoatom of uranium mined by SkhidGZK.

## Attacks

On the night of 17 March, the Russian occupiers attacked Ukraine with Shahed-type kamikaze drones from the east coast of the Sea of Azov and from the Bryansk region of Russia, as the Ukrainian Air Force Command [reported](#). The defence forces destroyed in the central, western and eastern regions 11 of the 16 attack UAVs launched. However, 2 drones impacted a critical infrastructure facility in Novomoskovsk (Dnipropetrovsk region), causing a fire at the enterprise, [reported](#) the Regional Military Administration Head Serhii Lysak. Another 3 UAVs hit non-residential premises in the Yavorivsk district (Lviv region), [said](#) the Regional Military Administration Head Maksym Kozytskyi.

## Electricity Sector

### *Power system operation*

[According](#) to the Prime Minister Denys Shmyhal, Ukraine currently produces enough electricity to cover consumption, while specialists are promptly repairing damage to distribution systems. According to him, the main tasks of the current year will be the restoration and protection of energy facilities, decentralization of the energy system, further integration with the European energy space, and increase of imports and exports opportunities.

[According](#) to the Minister of Energy Herman Halushchenko, on March 20, the generation has the necessary volumes of capacity to fully meet the demand of consumers throughout the country. A number of scheduled repairs on TPPs units were completed, which increased the available capacity reserves. Due to network infrastructure repairs, power supply restrictions are possible in the Zhytomyr and Kyiv regions.

[According](#) to Ukrenergo, electricity consumption increased on March 20, which is typical for a working day. All types of power plants are in operation, hydropower and solar generation are performing strongly. Electricity production is sufficient to cover consumption, the amount of available generation capacity increases the operational safety of the power system. Minor imports are also ongoing. In the Zhytomyr region, due to significant damage to the grids, restrictions are applied. Also, subject to significant increase in consumption, restrictions are possible in the Kyiv region and the city of Kyiv. The situation remains difficult in the areas along the front line, as the enemy constantly damages networks with artillery fire. In other regions, consumer restrictions were not applied, limits were not set.

As the former Minister of Energy Olha Buslavets [reported](#), as of March 17, 19 units of TPPs and CHPs were in operation, including 2 TPPs units operating on gas. 8 of 9 NPPs units, which are located in government-controlled territories, are in operation, while 1 unit has been put into maintenance. Hydropower plants operate as much as possible due to freshet, under favorable weather conditions solar and wind facilities continue to increase electricity production. The combination of these factors makes it possible to start exporting excess electricity to the EU countries. According to Buslavets, the "window" for exports remains open for a rather short period until almost all nuclear units have started maintenance. Over the past week, due to reduced burning, the volume of coal reserves at TPPs and CHPs increased by about 12,000 tons. The reserves of gas in storage amounted to 8.6 bcm, which is 9% higher than the average level in 'normal' years (2015-2018).

The President of Energoatom Petro Kotin [announced](#) the company shortened the time for all types of maintenance in order to provide Ukraine with electricity. According to Kotin, after one unit was taken offline for scheduled maintenance, 8 other NPP units in the government-controlled territory are operating at maximum available capacity.

[According](#) to ENTSO-E, as of March 20, minimal commercial imports of electricity were performed from Slovakia (4-7 MW) and Moldova (0-2 MW) (for different hours during the day). Access to the Slovakia->Ukraine [cross-border capacity](#) was booked by two companies (105 MW in total): D.Trading (55 MW) and ERU Trading (50 MW); access to the Moldova->Ukraine capacity - by D.Trading (100 MW); all on a flat schedule. In both auctions, the marginal price was "zero". Capacity in other directions was not offered. At the same time, the Base DAM indices in the countries of Eastern Europe (Poland, Hungary, Romania, and Slovakia) [exceeded](#) the similar indicator of Ukraine 1.6-1.7 times.

## **Electricity market performance (March 13-17)**

**Bilateral contracts market (BCM):** For the second week in a row, low trading intensity remains on the [Ukrainian Energy Exchange \(UEEX\)](#). 14 auctions for the purchase/sale of electricity were held at UEEX (5 in commercial sections, 9 in specialized ones). The bidders included Energoatom-Trading, Ukrhydroenergo, Centrenergo, Guaranteed Buyer, universal service suppliers, and distribution system operators. In total, 342,350.6 MWh (+48.6% as compared to the same period previous week) was sold at UEEX. The monthly Base index for March amounted to 2,773.9 UAH/MWh, the April index was 2,700.0 UAH/MWh.

In particular, Energoatom-Trading sold 115.92 GWh of base load at 2,700 UAH/MWh with delivery in April. Guaranteed Buyer sold 7.92 GWh of base load at 2,700 UAH/MWh with delivery in April, 139.8 GWh in block positions at prices 2,649.02-3,040.75 UAH/MWh with delivery in April, and 9.52 GWh in block positions at prices 2,668.75-2,739.57 UAH/MWh with delivery in March. Ukrhydroenergo sold 0.36 GWh in block positions of night hours at 1,750 UAH/MWh. Centerenergo sold 5.12 GWh in block positions (08-23) and 4.7 GWh (24-07) at prices of 3,335 UAH/MWh and 1,452.05 UAH/MWh, respectively, with delivery in March. In the commercial sections, the companies purchased electricity under the load of individual profiles.

**Day-ahead market (DAM):** According to the [Energy Map service](#), hourly prices at DAM were rather stable and approaching the price caps for day and night hours (4,000 and 2,000 UAH/MWh, respectively). On March 13-17, the deviation of hourly prices from price caps ranged from 0 to 53.8% and averaged 9.9%. In particular, only in 10% of cases, the price was close (with a deviation of less than 1%) or at the level of price caps. The weighted average [market price](#) in the reviewed period was in a narrow range of 3,061.1-3,340.3 UAH/MWh. At the same time, the Base DAM indices in the Eastern European



countries (Poland, Hungary, Romania, and Slovakia) [exceeded](#) the similar index of Ukraine 1.1-1.7 times; on some days, the price spread was only 0.4-1.9%.

The daily volume of trading on the DAM of Ukraine [ranged](#) 61,920.6-65,595.4 MWh. As a result, the total volume of electricity sales decreased to 317,849.3 MWh (-8.2% as compared to the same period previous week). In general, the market remained in surplus: the ratio between the total volume of sale and purchase bids was 1.36-1.86, no deficit hours were observed. [The purchase structure](#) was dominated by suppliers (80.5-81.4%), the share of system operators was 17.8-19.4%, the rest (about 1%) belonged to producers and traders.

## ***Disruption and resumption of supply***

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

- in the **Zhytomyr region**, [according](#) to Ukrenergo, on March 18, due to significant damage to networks, restrictions on electricity consumption were forced to be applied;
- in the **Kyiv region** and the **city of Kyiv**, [according](#) to DTEK, on March 17, stabilizing power outages were partially applied, yet [were lifted](#) on the night of the same day;
- in the **Zaporizhzhia region**, [according](#) to the local DSO, as of March 20, 24,009 consumers in 70 settlements remained offline (with the exception of the temporarily uncontrolled territory). On March 17-19, specialists restored power supply to 3,655 households in the city of Zaporizhzhia and 817 in the Orikhiv district, disconnected due to enemy's shelling and technological disruptions in the grids;
- in the **Kherson region**, [according](#) to the Regional Military Administration, as of March 18, 28 crews (138 specialists and 62 units of equipment) were working to restore electricity supply. Specialists performed works on the damaged lines supplying the city of Kherson, the villages and towns of Tokareve, Zarichne, Borozenske, Novopetrivka, Nova Kuban, Pravdyne, Komyshany, Kirove, Soldatske, Posad-Pokrovske, and Veletenske. The military also inspected 4.8 km of power lines, having discovered and destroyed explosives. [On March 19](#), the specialists restored power supply to 73 consumers in the village of Bilousove and 56 in the village of Tokareve, which had been offline for about a year. In general, in the liberated part of the Kherson region, electricity supply was restored to 122 out of 228 settlements, i.e. 54% of the total number;
- in the **Dnipropetrovsk region**, [according](#) to the local DSO, on March 17, specialists restored electricity supply to 1,964 consumers in one of the settlements, which is subject to constant enemy's attacks from the occupied territories;
- in the **Mykolaiv region**, [according](#) to the Regional Military Administration, as of March 20, the situation did not change: 1,093 electricity supply facilities were partially or completely damaged, while 7 legal entities-consumers still remained offline in the Bashtanka district;
- in the **Donetsk region**, according to the local DSO [\[1,2\]](#), on March 17-18, specialists managed to reach a number of damaged networks and equipment and repair them, which made it possible to restore electricity supply to 25,114 households in 26 settlements affected by shelling. Due to hostilities, 111 settlements remained offline, as specialists did not have access to works there;

- there was no up-to-date consolidated information on power supply in the **Kharkiv, Sumy and Luhansk regions** at the time of the review preparation.

### ***Other***

Euro-Reconstruction LLC, operator of the Darnytska CHP (producer of heat and power), [denied the information](#) shared by the media about the alleged sale of coal from state-owned mines at discounted prices and its general involvement in the so-called "coal scheme". [According](#) to the company's official response, it did not participate in the resale of G-grade coal produced at state-owned mines. The company also informed the public that the decision to transfer CHPs to operation on G-grade coal was made at a meeting on May 24, 2022, chaired by the Prime Minister of Ukraine, regarding preparation for the 2022/2023 heating season.

The Ministry of Energy, in turn, asked the media [to refute the inaccurate information](#) presented in the relevant article. The Ministry of Energy also drew the attention of the media to active operation of Russian propaganda, which aims to discredit the Ministry of Energy team and the industry as a whole.

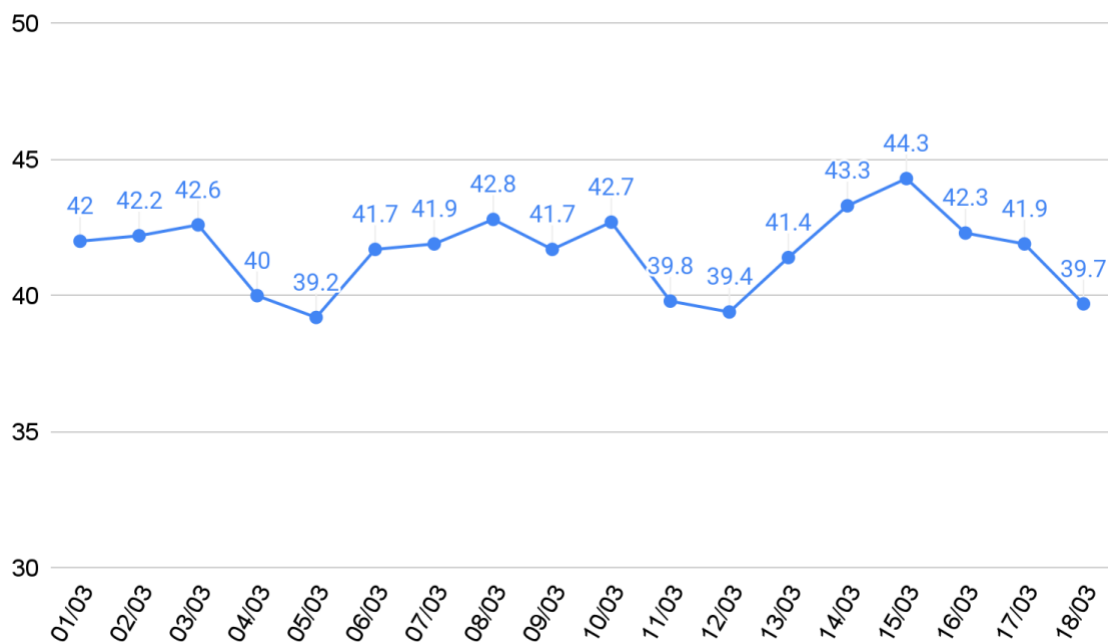
## **Oil & Gas Sector**

### ***Gas system performance***

On March 16-18, the volume of gas transit through the territory of Ukraine amounted to 39.7-42.3 mcm per day, i.e. only 36-39% of the capacity contracted by Gazprom (109 mcm per day). There were no transit flows via the Sokhranivka interconnection point.

The physical imports from EU countries were reported at 40.1 mcm (on average - 13.4 mcm per day) and performed via the Beregharoc interconnection point (VIP Beregh) at 21.6 mcm, via the Hermanowice interconnection point (VIP Ukraine-Poland) at 6.3 mcm, via the Budince interconnection point at 10.1 mcm and via the Căușeni interconnection point (Ukraine-Moldova) at 2.1 mcm. On March 16-18, on Ukraine's gas system exit, except for transit flows, no gas was transmitted.

### Transit of Russian gas through the territory of Ukraine, mcm



Source: [Gas Transmission System Operator of Ukraine LLC](#)

The Cabinet of Ministers [approved](#) Dmytro Lyppa as the General Director of Gas Transmission System Operator of Ukraine LLC, following his selection based on the results of competition organized by the parent company Mahistralni Gazoprovody Ukrainy JSC in November 2022. Until December 2022, Lyppa was the CEO of Kametstal metallurgical plant, part of the Metinvest Group of Rinat Akhmetov and Vadym Novynskyi.

GTSOU also [signed](#) a memorandum of cooperation with the Polish TSO GAZ-SYSTEM. The parties agreed to cooperate to establish long-term firm capacities between Poland and Ukraine through an incremental capacity process or by additional solutions that would allow for firm flows to Ukraine. The signatories also seek to remove any possible barriers to cross-border gas trade (including ensuring the transportation of renewable gases), which would require the adjustment of gas quality parameters between the two countries. In particular, for this purpose, the parties will create a research platform for the transportation of renewable gases, such as biomethane and hydrogen. Another priority of strategic cooperation is analyzing the prospects for LNG transportation between Poland and Ukraine, with possible utilization of Ukrainian storage facilities to enhance regional gas security.

### Functioning of the natural gas market

The [Security Service](#) and the [Economic Security Bureau](#) reported on searches conducted at offices of 16 gas distribution system operators and Regional Gas Company group. As stated in the both authorities' press releases, the illegal use of tariff revenues for the purchase of gas to cover production and technical losses has been documented. Such actions in 2021 only caused losses to the state of almost 3.5 billion UAH. The scheme included transactions "on paper" with managers paying privately controlled companies but not receiving gas purchased. To cover system costs, DSOs made unauthorized withdrawals of gas from the transmission system, thus accumulating debts to state-owned companies. In the future, the scheme organizers tried to "write off" the artificially created debt at the expense of state budget funds. Another part of the scheme was that the DSOs received tariff payments from consumers but directed them to affiliated commercial entities for shadow expenses.

Law enforcement agencies also reported that, in two regions, the management of gas DSOs had been returned to state representatives - this refers to the appointment of new management at Kryvorizhgas and Kharkivmiskgas by Naftogaz (Chornomornaftogaz, as company of Naftogaz group, was previously [granted](#) management rights of the several DSOs' seized shares).

In [turn](#), RGC stated that the searches were carried out on false charges. According to the company, the criminal case, which became the reason for the searches, was initiated only to pressure the enterprises which Naftogaz is trying to "overtake as a raider". In particular, RGC has called the change of management at [Kryvorizhgas](#) and [Kharkivmiskgas](#) a raider capture as, according to the company, Chornomornaftogaz as the newly appointed manager of the shares, had no right to change Supervisory Board and Board of Directors of those DSOs without a corresponding decision of the shareholders' meeting.

In turn, Gas Distribution Networks of Ukraine LLC (a newly created subsidiary of Naftogaz, to which the management of DSOs is planned to be transferred) [calls](#) the relevant process integration of DSOs into its structure, which takes place in a planned manner and in compliance with all legal requirements. The main goal of the process is "preventing the risk of emergency in the energy sector".

### ***Disruption and resumption of supply***

The Ministry of Energy did not update information on the number of consumers without gas supply. The **Dnipropetrovsk, Donetsk, Luhansk, Zaporizhzhia, Kherson, Mykolaiv, and Kharkiv regions** had the most challenging situation.

In the **Zaporizhzhia region**, as of March 20, 14,560 households in 37 settlements [remained](#) without gas supply (no change as compared to the [previous day](#)).

In the **Mykolaiv region**, according to the Regional Military Administration, as of March 20, 1,388 gas infrastructure facilities (no change as compared to March 17) were damaged during the war, as a result, 5,166 consumers (-5) [remained with no gas supply](#). The local DSO [received](#) the necessary materials to restore gas supply in the communities that were under constant enemy's fire. The DSO carried out a set of measures to restore gas supply in 6 settlements.

Operational information on gas supply in other affected regions was not available at the time of the review preparation.

## **Countermeasures of Ukrainian Companies and Public Authorities**

The President Volodymyr Zelenskyi [put into force](#) the National Security and Defense Council decision to impose sanctions on 300 individuals and 141 legal entities. The sanctioned companies are mainly enterprises of the Russian military industry, such as Kalashnikov, Almaz-Antey, Ural, and United Shipbuilding Corporation. At the same time, 16 Iranian companies, including Shahed Aviation Industries Company, were also included in the sanctions list. The sanctions also cover companies located in the temporarily occupied territory of Ukraine, such as Ilyich Iron and Steel Works, Institute of Marine Instrumentation and Robotics, and Yevpatoriia Aircraft Repair Plant.

The President also [signed](#) the law on compensation for damaged and destroyed property as a result of the events after February 24, 2022. The owners of destroyed apartments

and other residential premises will be able to receive a housing certificate - the document confirming the government's guarantee to finance the purchase of an apartment or other residential premises (including those to be built in the future) for a certain amount of money. The certificate can be used within five years from the date of its issue, and the housing received in exchange for it cannot be alienated for 5 years. Decisions on granting or refusing to grant compensation for the destroyed property will be made by special commissions set by the executive bodies of local councils, military or civil-military administrations of communities.

In addition, Zelenskyi [signed](#) the law on the development of high-efficient cogeneration in Ukraine. The document provides for the replacement of the mechanism for qualifying cogeneration facilities with the qualification of high-efficient cogeneration; the introduction of guarantees of origin for electricity produced by high-efficient cogeneration units. The State Agency on Energy Efficiency and Energy Saving will perform the qualification and issue guarantees of origin.

As part of the green transition, Ukraine is considering construction of up to 20 small modular reactors (SMRs) to replace TPP units destroyed during the war, so the Minister of Energy Herman Halushchenko [said](#). The President of Energoatom Petro Kotin confirmed that SMRs are a promising issue for Ukraine, and nuclear engineers, in cooperation with the Ministry of Energy, are currently developing many programs with various global companies that develop similar technologies. In particular, Energoatom cooperates with Westinghouse, which offers its AP300 reactor, NuScale and Holtec International, Rolls Royce and several other companies, having signed memoranda.

On March 19, in London, Energoatom and Cameco [signed](#) contracts to expand cooperation. Under the first agreement, Cameco will cover 100% of Energoatom's demand for uranium hexafluoride (UF<sub>6</sub>) in 2024-2035 by supplying it and conversion services for the Rivne, Khmelnytskyi and South Ukraine NPPs. The same possibility is envisaged for the Zaporizhzhia NPP after its full de-occupation. The second agreement provides for the sale by Energoatom to Canada of uranium mined in Ukraine by SkhidGZK (Eastern Mining and Processing Plant) in the full volume of production. Cameco will provide the conversion of Ukrainian-produced uranium. According to Kotin, another agreement is expected to be signed within a month - on specific volumes of uranium product supplies.

The International Working Group on Russian Sanctions ('Yermak-McFaul Group') has [published](#) a study on the impact of sanctions on the Russian economy over the past year. It is expected that Russia's revenues from oil and gas trade will drop by about 50% this year. The group's priorities are to reduce the level of price caps for Russian energy, in particular oil, to avoid exemptions for state-owned corporations directly involved in the aggression against Ukraine, such as Rosatom, and to ensure proper control over compliance with existing sanctions.

The process of Ukraine's power system synchronization with ENTSO-E requires further reforms, [said](#) the Director of the Energy Community Secretariat Artur Lorkowski in Kyiv. "In particular, it is very important that the transmission system operator, Ukrenergo, has proper corporate governance". According to him, the Energy Community also encourages and supports Ukraine in establishing a proper Inter-TSO compensation (ITC) mechanism. In addition, the Secretariat is ready to support Ukraine in the implementation of new electricity legislation package approved by the Energy Community Ministerial Council in December 2022.

Artur Lorkowski also [said](#) that the Energy Community Secretariat considers it necessary to liquidate Mahistralni Gazoprovody Ukrainy JSC and has concerns about the financial condition of GTSOU. "The situation with operation of the TSO, which was certified earlier, remains a challenge. The Secretariat recommends paying more attention to it. Changes



should be made to its structure and corporate governance - the current intermediary, MGU, should be eliminated", he emphasised.

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### **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 \(energy-community.org\)](http://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).*