



Russian War Against Ukraine: Energy Dimension

DiXi Group alert

(status as of 12:00, June 3)

#StopRussianAggression

#StandWithUkraine

Summary

- **App. 685,400 consumers all over Ukraine did not have electricity supply, and 168,000 consumers remained without gas supply.**
- **The Zaporizhzhia NPP is in a critical situation with ensuring its stable and safe operation.** According to the Main Intelligence Department of the Ministry of Defense, spare parts and supplies are almost absent at the plant.
- **Donbasenergo can launch bankruptcy proceeding starting on July 6,** due to the negative financial results (its equity has a negative value of about 458 million UAH).
- **In May 2022, the day-ahead and the intraday markets of electricity demonstrated a significant drop in liquidity** as compared to the same periods of previous years. The total electricity purchase volume on the DAM reached 512,800 MWh (77% and 80% less than in 2021 and 2020, respectively). The purchase volume on IDM reached 15,900 MWh (98% lower than in 2021 and 2020).
- **The gas price for 8.8 million households transferred to the supplier of last resort (GSC Naftogaz of Ukraine LLC) remains unknown.** Same applies to the algorithm of actions expected from consumers. Naftogaz expects clients to be transferred to standard contracts soon. According to media estimates, the Naftogaz group serves app. 93% of household consumers.
- **Energatom and Westinghouse announced widening of cooperation in the spheres of nuclear fuel supply and construction of new units** based on the

AP1000 technology; companies signed three respective deals and agreed to increase the number of new units from 5 to 9.

- **Over 180 Ukrainian civil society organizations, including DiXi Group, urged the EU to provide candidate status to Ukraine.** In a separate address to the members of the European Council, DiXi Group and other think tanks stated: Ukraine has reached a significant progress in the reform of energy markets and deserves to receive a candidate status.

Nuclear and Radiation Safety

Zaporizhzhia NPP

According to the Main Intelligence Directorate of the Ministry of Defense, the Zaporizhzhia NPP is in a [critical situation](#) with ensuring its stable and safe operation, as the facility lacks spare parts and consumables. Currently, operations at the station are carried out on a shift basis; the duration of each shift is one week. In addition, the Russian occupiers are studying the possibility of connecting ZNPP to the Russian power system. However, due to technical reasons, this is currently not possible.

At the same time, Adviser to the Prime Minister of Ukraine Yuriy Boyko [said](#) Ukraine is considering a scenario of complete ZNPP shutdown in the event of the slightest threat of losing control of the station. At the same time, in response to this information, Energoatom [stated](#) that disconnection of ZNPP from the power system of Ukraine is impossible from technical, security, economic and political points of view. Energoatom also called on all experts and the media to stop speculations and hypotheses about the future work of ZNPP.

Chornobyl NPP Exclusion Zone

The Minister of Environmental Protection and Natural Resources of Ukraine Ruslan Strilets [stated](#) that the environmental damage from Russian aggression is estimated at over 200 billion UAH. As for the Chornobyl NPP site and the Exclusion Zone, according to him, the total damage caused by the Russian invaders during the occupation has already reached 2 billion UAH. In his opinion, this amount will be much higher after the final work to identify the facts of damage. He also stressed that Russia should, in particular, compensate for the moral damage to the Chornobyl NPP workers, who were held hostage by the Russian troops for 30 days without rotation.

Electricity Sector:

Power system operation

Ukraine [continued](#) commercial exports of electricity to Poland via the Dobrotvirska TPP - Zamosc transmission line at the stable schedule of 210 MW hourly. As of June 3, exports to Moldova [did not resume](#), but for June 4 Energoatom and Ukrhydroenergo [purchased](#) 150 MW and 200 MW of cross-border capacity to Moldova. Also, technical [cross-border](#) flows continued between the energy systems of Ukraine and Eastern Europe countries (Slovakia, Hungary, Poland, Romania, and Moldova).

Ukrenergo continued to [rebuild](#) damaged energy infrastructure. In the central region, at a 750 kV substation, the installation of a transformer and a switch on the switchgear has been completed; installation of protection equipment and repair of cables continued. Fragmentary cable damage in two sections of a 750 kV overhead line and a 330 kV line were eliminated. In the eastern region, two 330 kV lines were being repaired (cables in 12 places have been restored, 17 insulators and 6

spacers have been replaced). In the south-easter region, a 330 kV line was restored (insulators have been replaced and 6 cable supports installed). In the northern region, the installation of measuring equipment at a 330 kV substation was underway.

Electricity market performance

In May 2022, DAM and IDM showed a significant "slump" in trading compared to similar periods in previous years. According to the [Energy Map](#) service, in May 2022, the total volume of electricity purchased on DAM reached 512.8 thousand MWh and was 77% and 80% [less](#) than in 2021 and 2020, respectively. Additionally, in May 2022, the volume of electricity purchased on IDM reached 15.9 thousand MWh and was [approximately](#) 98% less than in 2021 and 2020.

Meanwhile, [according](#) to media reports, Donbasenergo may initiate bankruptcy proceedings, given the company's negative financial results. The annual meeting of PJSC "Donbasenergo" shareholders on July 6 intends to oblige the board of the company to submit to a commercial court the application to open bankruptcy proceedings. According to the financial statement as of March 31, 2022, the equity of Donbasenergo has a negative value (about 458 million UAH), i.e. its assets are less than the total liabilities. To remind, on May 27, Donbasenergo [stopped operation of the Slovyansk TPP](#) (880 MW) in order to save the lives and health of the station's personnel, as well as to evacuate employees and members of their families.

Day-ahead market (DAM): As of 3 June, the weighted average settlement price [decreased](#) slightly and amounted to 2,284.14 UAH/MWh (- 2.7% to the previous day). In general, during the working days of the week (May 30 - June 3), the price [remained](#) relatively stable in the range 2281-2347 UAH/MWh. At the same time, exchange prices in the Eastern European markets demonstrated diverse dynamics, which was reflected in their [gap](#) to Ukraine. Prices in Slovakia, Romania and Hungary were 2.7-2.8 times higher than the DAM Base price index of Ukraine, while the price spread with the Polish market was traditionally narrower at 2.4 times.

After rapid growth, the total volume of trading [decreased](#) significantly - to 17,366.2 MWh (-14.7% vs the previous day). In general, in the working days of the week (May 30 - June 3), the volume of electricity purchased on DAM [fluctuated](#) significantly between 10 and 24.1 GWh. At the same time, the supply on DAM also decreased to 97,603.1 MWh (-8%), which in general led to a certain increase in market surplus: the gap with the volume of purchase bids was 5.6 times. At the same time, [the structure of purchase](#) has not significantly changed: the main part (70%) was occupied by suppliers, 29.7% by system operators, the remaining 0.3% by producers and traders.

Intraday market (IDM): On June 2, the weighted average price of electricity on IDM continued to [slowly decrease](#) and amounted to 2,517.71 UAH/MWh (-5.3% vs the previous day). The total volume of trading, due to the low base of comparison, demonstrated significant growth up to 283.5 MWh (+636.4% vs the previous day), yet is still low. Along with the continued supply growth - up to 57,933 MWh (+7.6%), this led to a sharp decrease in the IDM surplus - the gap with the volume of purchase bids fell from 1345 to 206 times. In the [structure of purchase](#), the dominant part (95.5%) was occupied by suppliers, 4.5% by system operators.

Disruption and resumption of supply

[According](#) to the Ministry of Energy, as of June 2, due to hostilities, a total of app. 685,400 consumers in 776 settlements were disconnected from electricity supply. During the day, electricity supply was resumed to app. 20,000 consumers.

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

- in the **Donetsk region**, [according](#) to the Ministry of Energy, 405,000 consumers were left without electricity supply. According to the Regional Military Administration Head Pavlo Kyrylenko, due to numerous damages to power lines in the region, in the settlements of Slovyansk, Druzhkivka, Kramatorsk, Kostiantynivka and Toretsk, electricity and water supply have been partially or [completely absent](#) for more than 2 weeks. On June 2, the repair crews managed to restore the 110 kV power transmission line "Slovyansk TPP -

Mykolaivka", as well as the operation of pumping stations of the Siverskyi Donets - Donbas channel; according to the local DSO, electricity supply to 49,865 households in Kramatorsk, Bakhmut and Pokrovsk districts has been restored last day.

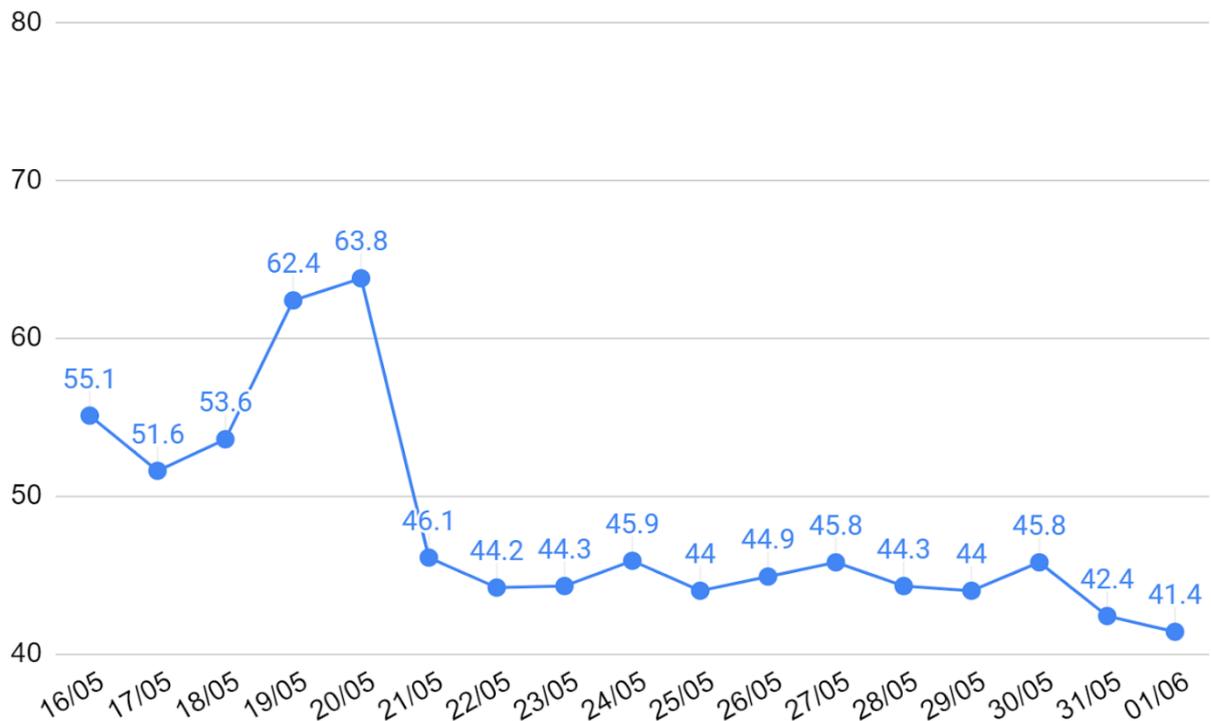
- in the **Luhansk region**, [according](#) to the Ministry of Energy, 128,200 consumers were left without electricity supply;
- in the **Kharkiv region**, [according](#) to the Ministry of Energy, 43,700 consumers remained without electricity. On June 2, specialists of DSO [inspected](#) the condition of switchboards and prepared for the resumption of power supply in the MZhK Internationalist area in Saltivka neighborhood (Kharkiv), which had been under intense enemy fire since the first days of the war. 7 multi-storey residential buildings have been reconnected, another 4 will receive electricity supply in the current week;
- in the **Zaporizhzhia region**, [according](#) to the local DSO, as of 07:00 on June 3, 21,497 consumers in 76 settlements remained without electricity supply. Supply to 1,694 consumers was resumed during the day (900 in Tokmak, Vilnyansk and Zaporizhzhia network areas, 409 in Orikhiv and 385 Polohy network areas);
- in the **Mykolaiv region**, [according](#) to the Regional Military Administration, as of June 3, 367 power supply facilities were partially or completely damaged, including 2 in the last 24 hours. 91 settlements (4 of them partially) of the Bashtanka and Mykolaiv districts remained without electricity;
- in the **Kherson region**, [according](#) to the Regional Military Administration, as of 12:00 on June 2, there was still no mobile connection and partially also the Internet in the temporarily occupied territories; in those communities, where it was possible to establish communication, electricity supply was provided;
- in the **Dnipropetrovsk region**, [according](#) to the Kryvyi Rih Military Administration Head Oleksandr Vilkul, in the evening of June 2, the Russian military fired on the village of Maryanske (Kryvyi Rih district), with power supply systems destroyed. In addition, due to bad weather, 10 settlements were offline, 6 of which were able to have electricity supply quickly restored;
- in the **Chernihiv region**, [according](#) to the Regional Military Administration, as of 06:00 on June 3, 14,547 consumers in 37 settlements did not receive electricity supply services;
- in the **Kyiv region**, according to the local DSO, on June 1, emergency crews promptly restored electricity supply to 8,781 households in 24 settlements, which were [without supply](#) due to damage by missile attack. In May, the company's specialists [eliminated](#) 347 network emergencies and reconnected 302,606 customers;
- in the **Sumy region**, on the night of June 2, the occupiers fired on the Krasnopillia community from the territory of the Russian Federation, with an overhead line and 6 transformer substations [offline](#) as a result. DSO's specialists were engaged in the restoration of electricity supply;
- there was no up-to-date consolidated information on power supply in the **Odesa region** at the time of the review preparation.

Gas Sector:

As of June 1, the gas transit through the territory of Ukraine decreased by 1.3 mcm compared to the previous day and amounted to 41.1 mcm. These volumes were only 38% of 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 1.1 mcm. At the same time, these volumes may be a transit from Poland to Hungary via Ukraine, as on June 1, on Ukraine's gas system exit via the Berehove interconnection point (virtual interconnection point "Bereg") almost the same volume of gas (0.8 mcm) was shipped.

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



Source: [GTSOU](#)

[According](#) to the media, the Naftogaz group currently serves about 93% of household consumers through GSC Naftogaz of Ukraine LLC. At the same time, the price for the supplier of last resort (GSC Naftogaz of Ukraine) to supply gas to 8.8 million of new household consumers remained unknown and was not published. Also, given the expiration of the NEURC resolution No.2471 on the automatic transfer for household consumers of the supplier of last resort to the contract of GSC Naftogaz of Ukraine LLC as a commercial supplier, the expected algorithm of actions for consumers remained unclear. [According](#) to the official release of Naftogaz, the company expects these customers will be transferred to standard contracts soon.

To remind, it was [announced](#) that all household consumers will be transferred from suppliers operating under the brand "Tviy Gazzbut" to the supplier of last resort (GSC Naftogaz of Ukraine LLC) from June 1. As of May 31, these suppliers could not sign supply contracts with Naftogaz of Ukraine NJSC due to inability to meet several requirements (providing a bank guarantee, limiting the amount of overdue payments, repayment of debts for gas supplied in previous periods).

Disruption and resumption of supply

The **Donetsk, Luhansk, Zaporizhzhia, Chernihiv, Mykolaiv and Kharkiv regions** had the most challenging situation in gas supply. [According](#) to the Cabinet of Ministers, as of June 2, 168,000 consumers were left with no gas supply. Supply to 2,100 consumers was restored during the day.

In the **Donetsk region**, the situation didn't change: the whole region remained without gas supply, and the local DSO continued evacuating the staff.

In the **Luhansk region**, gas supply was completely suspended. [According](#) to the Regional Military Administration Head Serhii Haidai, the region's critical infrastructure was destroyed by 90%.

In the **Kharkiv region**, the local DSO completely [restored](#) gas supply in the village of Vilkhivka. In 2 weeks, the gas company inspected the entire infrastructure, replaced the damaged distribution networks and launched gas flow for more than 80 households. Gas distribution was also restored in the village of Velyka Babka (73 households).

[According](#) to the **Zaporizhzhia** Regional Military Administration, 76,233 consumers in 97 settlements were left without gas supply. The day before, underground distribution pipelines of the Polohy gas distribution station (GDS) were closed due to intense hostilities, leaving 177 consumers in 3 settlements without gas supply. In addition, a low-pressure underground gas pipeline in the village of Preobrazhenka (Polohy district) was damaged by shelling. At the same time, last day, the damages to low- and medium-pressure gas pipelines, caused earlier that day in the village of Verhnya Tersa (Polohy district), were eliminated.

In the **Kherson region**, [as of 11:00 on June 3](#), there was no information regarding any significant change as compared to the previous day: 1 community (Vysokopillia) has completely remained without gas supply and 3 communities (Velyka Oleksandrivka, Novovorontsovka, Stanislav) partially. LPG reserves were running out in 4 communities (Tyahyn, Hornostaivka, Velyka Lepetykha and Rubanivka); in the Novoraysk community, LPG supply had run out.

In the **Mykolaiv region**, as of June 2, the situation became worse: 590 gas infrastructure facilities (+2 vs the previous day) were [destroyed or damaged](#) for the whole period of the war, and 7,125 consumers (+1,724) were left without gas supply.

Operational information on gas supply in the **Sumy and Chernihiv regions** was not available at the time of the review preparation.

Countermeasures of Ukrainian Companies and Public Authorities

More than 180 Ukrainian civil society organizations, including DiXi Group, [urged](#) the EU to provide candidate status to Ukraine. According to the open address, almost all countries that applied for membership after 1993 met the accession criteria to a lesser extent than Ukraine, which has been implementing the Association Agreement for more than seven years and is close to the EU in a number of areas, from electricity to foreign policy. The authors of the appeal propose to allay the concerns of some EU capitals that Kyiv, once a candidate, will demand further unconditional integration and lose its appetite for reform - by setting the appropriate preconditions for starting accession negotiations, as the next technical step after candidacy. It will address the concerns of the EU and will omit such intermediate status of Ukraine as a "potential candidate".

In a separate address to members of the European Council, DiXi Group and representatives of other partner think tanks [noted](#) that, since Ukraine joined the Energy Community Treaty in 2011, Ukrainian organizations have regularly monitored Ukraine's compliance with its commitments. Following ten years of monitoring, DiXi Group analysts indicate Ukraine has made significant progress in energy market reforms and deserves to see its application for EU membership considered as soon as possible. The think tanks called on the members of the European Council to take a historic step in granting Ukraine candidate status and start the negotiations of the candidate status.

The Office of the Vice Prime Minister for European and Euro-Atlantic Integration [announced](#) 330 million EUR will be provided under the EU's emergency assistance program for Ukraine. The funds, in particular, are meant to increase energy resilience, including strengthening security and restoring energy infrastructure, energy supply and reserves. Funding will be provided from the EU budget under the Neighborhood, Development and International Cooperation Instrument.

Energatom and Westinghouse announced widening of cooperation in the spheres of nuclear fuel supply and construction of new units in Ukraine. In particular, on June 2, the parties [signed](#) 3 agreements: on the supply of nuclear fuel for all NPPs of Ukraine; on increasing the number of NPP units to be built using the AP1000 technology (Generation III+ reactors with passive safety systems, modular standard design, better performance and the ability to operate in flexible mode); on the establishment of the Westinghouse engineering and technical center in Ukraine. At the same time, the companies agreed to increase the number of new units from 5 to 9.

The [Prosecutor General's Office](#) and the press services of [the Security Service](#) and [the State Bureau of Investigation](#) announced they passed to a court the first criminal case against Viktor Medvedchuk for embezzlement of natural resources in the occupied Crimea in 2015-2020. This includes damage to Ukraine's economic security by assisting Russia in the illegal oil and gas production in the Prykerchensky offshore area. Medvedchuk faces up to 15 years of sentence with or without confiscation of property.

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.

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