

Daily Alert

**Russian War Against
Ukraine: Energy Dimension**

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#StopRussianAggression
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Summary

- Reconstruction and recovery needs, as of February, are about 411 billion USD - so the World Bank's new Rapid Damage and Needs Assessment. As compared to the June 2022 assessment, in the energy sector, the losses increased more than 5 times.
- In war conditions, coal mines cannot function properly, suspended operation of some companies means total losses of over 300 million USD, said the Deputy Minister of Energy Yaroslav Demchenkov. He stressed Ukraine needs support from partners in closing down coal mines and switching CHPs and TPPs to alternative fuels.
- Meanwhile, the Chervonohrad microregion became a pilot one within the Supporting Structural Change in Ukraine's Coal Regions project, which was launched in the Lviv region. The project will include, inter alia, the development of a communication strategy for coal transition, support for green recovery, and modernization of the energy system.
- Over the past six months, thermal power plants alone of DTEK Energy have been attacked by the enemy 29 times, more than 1,000 units of equipment have been damaged. Direct losses from damage and destruction of equipment are approaching 6 billion UAH.
- The Ministries of Energy and Healthcare are launching the Ray of Hope project to equip hospitals with solar panels received as aid from the European Commission. At the first stage, Ukraine will receive 5,700 solar panels (350 W each) with a total capacity of about 2 MW. The panels will be installed together with hybrid inverters and battery units.
- As reported, a pilot project to install solar panels has already been implemented in the outpatient clinic in the village of Horenka, Bucha district (Kyiv region): 12 kW of solar panels cover up to 60% of the facility's electricity needs.

- The President Volodymyr Zelenskyi signed a law on the development of charging stations for electric vehicles
- The Advantage Ukraine investment platform, operating in partnership with the Ministry of Economy, has prepared and submitted the first investment projects to the U.S. International Development Finance Corporation (DFC) for financing and war risk insurance. Also, several projects at an early stage of development, including those in the energy sector, should be submitted to the DFC soon.
- Ukrposhta will reduce the number of offices where incandescent lamps can be exchanged for LED lamps due to a decrease in demand. So far, about 3 million Ukrainians have taken advantage of the program and exchanged about 14 million lamps.

Attacks

Most of the coal-producing settlements in the Donetsk and Luhansk regions are currently located in the combat zone, occupied or blocked by the enemy, [said](#) the Deputy Minister of Energy Yaroslav Demchenkov. The mines cannot function properly in such conditions and this creates new environmental risks and socio-economic problems. According to the World Bank, suspended operation of some coal mining companies means total losses of over 300 million USD. Demchenkov stressed that Ukraine needs support from partners in physically closing down coal mines and switching CHPs and TPPs to alternative fuels. Assistance is also needed in formulating and implementing a policy of gradual liquidation of the coal industry and just transition.

The World Bank [issued](#) its new estimate of reconstruction needs for Ukraine. Reconstruction and recovery needs, as of February, are estimated at about 411 billion USD. This figure is equivalent to 2.6 times Ukraine's projected GDP in 2022. The most urgent needs (almost 17%) include restoration of housing and utilities, energy (11%) and agriculture (7%). As compared to the June 2022 Rapid Damage and Needs Assessment, energy is the sector with the largest difference, as losses increase more than 5 times.

The 2022/2023 heating season was unprecedented for the Ukrainian energy system. Over the past six months, thermal power plants alone of DTEK Energy have been attacked by the enemy 29 times, and more than 1,000 units of various equipment have been damaged, so the company's press service [reported](#). According to the CEO Ildar Saleev, direct losses from damage and destruction of equipment at the generating facilities are approaching 6 billion UAH. In 2022, DTEK Energy TPPs completed 26 repairs of power units, and the company plans to repair another 28 power units in preparation for the next heating season.

Electricity Sector

Power system operation

[According](#) to the Minister of Energy Herman Halushchenko, on March 23, the power system works without restrictions, generation has a capacity reserve and provides the necessary volumes of electricity for the needs of consumers throughout the country. At the same time, restoration works on network infrastructure facilities, which were damaged by the latest massive shelling, continued.

[According](#) to ENTSO-E, as of March 23, minimal commercial imports of electricity were performed from Slovakia (6-7 MW) (for different hours during the day); imports from Moldova were not performed. Access to the Slovakia->Ukraine cross-border capacity [was booked](#) by three companies (125 MW in total): D.Trading (55 MW), ERU Trading (50 MW) and Nexttrade (20 MW); access to the Moldova->Ukraine capacity - by D.Trading (100

MW); all on a flat schedule. The marginal price for both capacity auctions 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 1.4-1.5 times.

Disruption and resumption of supply

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

- in the **Kharkiv region**, [according](#) to the Ministry of Energy, on March 22, electricity supply was restored for about 1,000 consumers;
- in the **Zaporizhzhia region**, [according](#) to the local DSO, as of March 23, 23,953 consumers in 70 settlements remained offline (with the exception of temporarily uncontrolled territories). During the day, specialists fixed the failures and restored power supply to 2,305 consumers in the city of Zaporizhzhia, which were disconnected as a result of technological violations. In the rest of the territories, due to active hostilities and the lack of access to the damage sites, no emergency restoration works were performed, no new outages were recorded;
- in the **Kherson region**, [according](#) to the Regional Military Administration, as of March 21, 40 crews (191 specialists and 73 units of equipment) were working to restore electricity supply. Specialists performed works on the damaged lines supplying the cities of Kherson and Beryslav, the villages and towns of Mala Seydemynukha, Tomaryne, Kucherske, Zarichne, Novovorontsovka, Petropavlivka, Sadok, Trudoliubivka, Kalynivske, Pravdyne, Kirove, Soldatske, Krutyi Yar, and Posad-Pokrovske. [On March 22](#), specialists began supplies to the village of Kucherske (Borozenske district), reconnecting 193 metering points;
- in the **Dnipropetrovsk region**, [according](#) to the Regional Military Administration, on March 22, the Russian occupiers once again attacked the Nikopol district, as a result power grids in the Marhanets community were damaged;
- in the **Mykolaiv region**, [according](#) to the Regional Military Administration, as of March 23, 1,095 electricity supply facilities were partially or completely damaged (+ 2 during the day);
- in the **Donetsk region**, [according](#) to the local DSO, on March 21, specialists managed to repair a number of damaged networks and equipment, which made it possible to restore electricity supply to 2,341 households. Due to hostilities, 109 settlements remained offline, as specialists did not have access to works there. [According](#) to the Ministry of Energy, on March 22, electricity supply was restored to about 4,000 consumers in the region;
- in the **Zhytomyr region**, [according](#) to the Ministry of Energy, on March 23, due to restoration of network infrastructure, power outages are possible;
- there was no up-to-date consolidated information on power supply in the **Luhansk region** at the time of the review preparation.

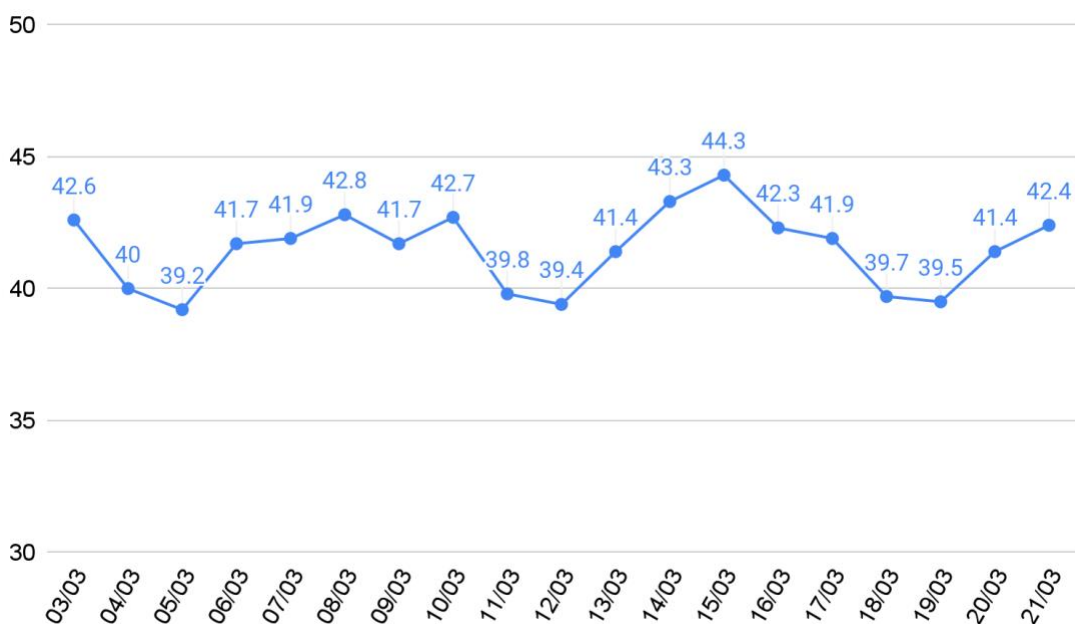
Oil & Gas Sector

Gas system performance

On March 21, the volume of gas transit through the territory of Ukraine amounted to 42.4 mcm (+1 mcm as compared to the previous day), i.e. only 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 14.3 mcm and performed via the Beregdaroc interconnection point (VIP Bereg) at 8 mcm, via the Hermanowice interconnection point (VIP Ukraine-Poland) at 2.2 mcm, via the the Budince interconnection point at 3.4 mcm and via the Căușeni interconnection point (Ukraine-Moldova) at 0.7 mcm. On March 21, 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](#)

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**, gas infrastructure was also damaged due to the March 22 enemy's missile attack on a high-rise building in Zaporizhzhia. Gas leaks were immediately localized, the threat of an explosion was eliminated. Inspections of nearby pipelines are underway to detect hidden leaks or damage, and 319 apartments remain without gas supply. Supply will be resumed immediately after inspection of the network.

In the **Kherson region**, the local DSO [reported](#) that since the right-bank part of the region was de-occupied, gas supply in the Kherson district had been fully restored in 22 settlements. In another 4 settlements of the district, gas distribution will be resumed immediately after demining the territories where an inlet gas pipeline is laid.

In the **Mykolaiv region**, according to the Regional Military Administration, as of March 23, 1,388 gas infrastructure facilities (no change as compared to March 22) were damaged during the war, as a result, 5,139 consumers (no change) [remained with no gas supply](#).

In the **Kharkiv region**, the local DSO recently [restored](#) gas supply to about 90 residential buildings. In the Kupyansk district, specialists almost on daily basis eliminate the consequences of another attack on the residential sector. The Russian army's latest shelling of the residential sector left about 60 consumers without gas supply. In general, restoration works are being carried out in 4 districts.

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

Ukraine wants Japan to join the countries - security guarantors, [said](#) the Deputy Head of the Presidential Office Ihor Zhovkva. He informed that the day before, at a meeting with the head of the Japanese government, the President Volodymyr Zelenskyi had raised this issue in detail.

The Ministries of Energy and Healthcare of Ukraine are [launching](#) the Ray of Hope project to equip hospitals with solar panels received as aid from the European Commission. As planned, at the first stage, Ukraine will receive 5,700 solar panels (350 W each) with a total capacity of about 2 MW. The panels will be installed together with hybrid inverters and battery units. The Ministry of Healthcare will determine the list of healthcare facilities for which the implementation of a hybrid power supply system using solar panels and storage is most relevant. The Ministry of Energy will provide equipment transfer and technical analysis on the possibility of installing such systems. As reported, a pilot project to install solar panels has already been implemented in the outpatient clinic in the village of Horenka, Bucha district (Kyiv region): 12 kW of solar panels cover up to 60% of the facility's electricity needs.

The Advantage Ukraine investment platform, operating in partnership with the Ministry of Economy of Ukraine, has [prepared](#) and submitted the first investment projects for consideration by the U.S. International Development Finance Corporation (DFC) for financing and war risk insurance. In particular, these are projects of Ukrainian investors in the construction, manufacturing, e-commerce, and residential real estate sectors, totaling 430 million USD. There are reportedly several projects at an early stage of development, including those in the energy sector, which Advantage Ukraine plans to submit to the DFC soon.

The Chervonohrad microregion became a pilot one within the Supporting Structural Change in Ukraine's Coal Regions project, which was [launched](#) in the Lviv region. The project will include, inter alia, the development of a communication strategy for coal transition, support for green recovery, and modernization of the Ukrainian energy system. Work is currently underway on the Chervonohrad Microregion Strategy, which is to be supplemented by projects and financing.

The President Volodymyr Zelenskyi [signed](#) a law on the development of charging stations for electric vehicles. The law provides for:

- simplification of requirements for land plots for the placement of charging stations;
- simplification and reduction of the cost of grid connection of charging stations (no capacity fee for connection until the end of 2024);
- possibility of installing charging stations for condominiums (within the existing capacity);
- preferential (no capacity fee) connection of energy storage systems to Ukrenergo's grids until the end of 2024.

The law also introduces restrictions on the purchase and operation of buses with internal combustion engines (ICEs) used in public transportation. Starting in 2036, there will be a complete ban on the operation of buses with internal combustion engines (except for hydrogen and methane-powered). Local authorities will have the right to adjust the timeframe for the introduction of such restrictions.

Starting from March 22, Ukrposhta will [reduce](#) the number of offices where incandescent lamps can be exchanged for energy-saving LED lamps due to a decrease in demand. The central offices and those where the exchange of lamps is active will continue providing this service. In total, about 3 million Ukrainians have taken advantage of the free incandescent lamp exchange program and exchanged about 14 million lamps at the offices of Ukrposhta.

At its meeting on March 22, the NEURC [decided](#) to:

- [set](#) the tariff for the services of the supplier of last resort in electricity for 2Q2023 at 518.20 UAH/MWh, excluding VAT (+0.2% as compared to 1Q2023);
- [set](#) the level of regulatory fee for 2Q2023;
- [approve](#) the cost of the service for ensuring the share of electricity production from RES by universal service suppliers in February 2023;
- [amend](#) the Resolution No. 332 to regulate the maximum volume of electricity sales for generating units which have resumed operation after damage/force majeure; and set a 100% cash guarantee for the imbalance responsible party, if its funds have been arrested by law enforcement authorities.

The NEURC also [announced](#) a meeting on March 28, where it plans to [set](#) feed-in tariffs and a surcharge for the use of Ukrainian equipment starting from April 1, 2023; feed-in tariffs for generating facilities of consumers, including energy cooperatives, with a capacity of up to 150 kW; and feed-in tariffs for private households.

Brodyteploenergo [received](#) a gas-fired cogeneration unit (capacity: 363 kW in electricity and 498 kW in heat), according to the Lviv Regional Military Administration. The cost of this equipment in Germany is 300,000 EUR. It was donated free of charge by EAM Naturenergie GmbH, Dr. Bastian and Prof. Büscher.

For subscriptions, comments and other questions, please email to:
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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).