

Daily Alert

Russian War Against Ukraine: Energy Dimension

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#StopRussianAggression
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Summary

- Since October 2022, Russia has carried out 31 air attacks on energy infrastructure, including 14 massive missile strikes and 17 attacks by groups of drones, so the Minister of Energy Herman Halushchenko. In the most critical period, the number of disconnected metering points exceeded 13.5 million, i.e. over 80% of all consumers.
- Russian occupiers employ people with no appropriate education and experience at the Zaporizhzhia NPP, which can lead to unpredictable consequences - the General Staff of the Armed Forces of Ukraine.
- According to the Minister Halushchenko, Ukraine is completing the heating season with sufficient reserves of energy resources. As of March 3, coal reserves amount to 1.16 Mt (+0.37 Mt YoY), natural gas in storage - to 9.7 bcm (close to YoY volumes).
- Given that the situation in the power system has stabilized, Ukrenergo will update information three times a week. High trading intensity is observed in the organized segments of electricity market.
- Ukraine will strengthen the protection of power distribution systems and generation facilities with shelter, anti-aircraft and anti-missile defense systems - so the Prime Minister Denys Shmyhal. The Minister Halushchenko called for the creation of a common European reserve of emergency equipment to enable fast response in the event of new massive missile strikes.
- Also, according to Halushchenko, projects to construct small gas-fired power generation are implemented, and active development of RES is expected. State programs are planned to provide incentives to backup power systems for critical infrastructure and households, which include the installation of solar panels or wind

turbines with energy storage and suitable hybrid inverters. Solar panels for public buildings provided by ENEL shall arrive by summer.

- In 2022, Subsidies for maintaining regulated energy prices for households reached 400 billion UAH - media citing the Prime Minister Shmyhal. In particular, Energoatom and Ukrhydroenergo paid 107 billion UAH, Naftogaz - more than 200 billion UAH, district heating companies and local authorities compensated another 100 billion UAH.
- For a month of the all-Ukrainian program, over 2 million Ukrainians exchanged 10 million incandescent lamps for the same number of LED lamps.
- The Security Service reported the seizure of 16,000 tons of fuel (800 million UAH). In that way the service blocked the possible illegal sale of these oil products, illegally taken from Ukrnafta and Ukrtatnafta by the previous management.
- The government approved the 2023-2025 State Anti-Corruption Program and will approve the National Anti-Corruption Bureau director (from the three finalists) at its next meeting.

Attacks

On the night of March 6, the Russian occupiers attacked Ukraine with Iranian-made Shahed-131/136 kamikaze drones from the north (Bryansk region of Russia), as the Ukrainian Air Force [reported](#). 13 of 15 drones were shot down by the defense forces, no damage to infrastructure was reported.

Since October 2022, Russia has carried out 31 air attacks on energy infrastructure, including 14 massive missile strikes and 17 attacks by groups of drones, [said](#) the Minister of Energy Herman Halushchenko. As a result of the hostile actions, key energy facilities were damaged - thermal power plants, CHPs, hydroelectric and pumped storage power plants, and transmission system substations (Ukrenergo's substations [were attacked](#) by more than 200 missiles and UAVs). In addition, some generating facilities are still under occupation. In the most critical period, the number of disconnected metering points exceeded 13.5 million, which is over 80% of the total number of consumers.

The Ministry of Environmental Protection and Natural Resources has developed a new methodology for recording and calculating environmental damage, according to the damage caused by Russia is estimated at 2 trillion UAH, [said](#) the Minister Ruslan Strilets.

Nuclear Safety

On March 4, the General Staff of the Armed Forces of Ukraine [reported](#) that the Zaporizhzhia NPP lacks professional personnel to ensure safe operation of the power plant. The Russian occupiers are employing people without the appropriate education and experience, which can lead to unpredictable consequences.

The EU [released](#) a statement after the OSCE Permanent Council meeting in Vienna on March 2, 2023, regarding Russia's aggression in Ukraine. Inter alia, the EU called on Russia to withdraw its troops from the ZNPP site and expressed deep concern about the recent shelling of the area around the plant.

On the anniversary of the Zaporizhzhia NPP seizure by Russian invaders, the President Volodymyr Zelenskyi [called](#) on the world to respond in a particularly principled manner.

"We need global sanctions on the Russian nuclear industry, we need to immediately return Ukraine's full control over ZNPP", the President said. Zelenskyi thanked the IAEA for its cooperation to restore safety.

At the same time, the Minister of Energy Herman Halushchenko [said](#) that diplomatic efforts to return ZNPP under Ukraine's control have not been successful and that the situation has reached a deadlock. Ukraine's position on any negotiations regarding the ZNPP is based on the demilitarization of the site, the withdrawal of Rosatom employees, and the full return of control to Ukrainian personnel.

Electricity Sector

Power system operation

[According](#) to the Minister of Energy Herman Halushchenko, for 3 weeks in a row, the balance of supply and demand is ensured in the power system without restrictions on consumers. This was achieved due to the early completion of maintenance at nuclear units, the prompt restoration of a number of thermal generation units, favorable weather conditions, and an increase in production at hydropower and pumped storage power plants. Ukraine is completing the heating season with sufficient reserves of energy resources. Thus, as of March 3, coal reserves at TPPs and CHPs warehouses amount to 1.16 million tons, which is 0.37 million tons more year-on-year. The volumes of natural gas in storage amount to 9.7 bcm (close to year-on-year volumes).

[According](#) to Ukrenergo, on March 6, electricity consumption was gradually increasing, which is typical for the beginning of the working week; no sharp increase in consumption due to weather conditions is expected. There has been no capacity deficit in the power system for 23 days in a row and it is currently not forecasted. The demand is fully covered by domestic generation capacity and small volume of imports. All types of power plants are in operation, the available generation capacity contributes to increasing the system's operational safety. There are currently no network restrictions in the regions necessitating consumer outages.

After the restoration works, the reliability of power supply in the eastern region was restored. Also, improving the reliability of electricity supply in the Odesa region continued, no consumer outages are expected. As the situation in the power system has stabilized, **Ukrenergo will continue to update information** on its status three times a week; however, if the situation changes, it will return to more frequent updates.

[According](#) to ENTSO-E, as of March 6, minimal commercial imports of electricity were performed from Slovakia (5-8 MW for different hours during the day). There is no data on imports from Moldova. Access to the Slovakia->Ukraine capacity [was booked](#) by two companies for a total volume of 260 MW: D.Trading (250 MW) and Avgusta (10 MW) on a flat schedule. D.Trading booked capacity in the Moldova->Ukraine direction (120 MW). In both auctions, the marginal price was "zero". Capacity in other directions was not offered.

Electricity market performance (February 27-March 3):

Bilateral contracts market (BCM): At the Ukrainian Energy Exchange (UEEX), high trading intensity is maintained for the second week in a row. As in previous week, [23 auctions](#) for the purchase/sale of electricity were held at UEEX in a one-way auctioning regime (4 in commercial sections, 19 in specialized ones). The bidders included Energoatom-Trading, Ukrhydroenergo, Centrenergo, Donbasenergo, Guaranteed Buyer, companies of DTEK group, universal service suppliers, and distribution system operators.

In total, 2,428,021.8 MWh was sold at UEEX (2.15 times more as compared to the same period previous week) with delivery in March. The monthly Base index for February almost did not change at 3,256.1 UAH/MWh, and the index for March continued to decrease at 2,773.9 UAH/MWh (-6.4%).

In particular, Energoatom-Trading sold 883.92 GWh of base load at 2,700.02-2,703.05 UAH/MWh. Guaranteed Buyer sold 223.09 GWh in block positions of daytime hours at 2,657.39-2,982.85 UAH/MWh. Ukrhydroenergo offered base load and block positions, but did not succeed to sell. Centrenergo sold 8.61 GWh in block positions. DTEK Kurakhivska TPP, DTEK Dniproenergo and DTEK Zakhidenergo sold a total of 960.68 GWh in block positions at prices in the range 1,500-2,800 UAH/MWh.

In addition, in specialized sections, companies sold electricity (base load): Donbasenergo - 185.75 GWh at a weighted average price of 2,700.8 UAH/MWh, Cherkaske Khimvolokno - 29.72 GWh at 2,648.2 UAH/MWh, and Technova - 54.24 GWh at 2,601.51 UAH/MWh. In the commercial sections, the companies purchased electricity by the load of individual profiles.

Day-ahead market (DAM): According to the [Energy Map service](#), unlike previous week, hourly prices increased and were close to the price caps for day and night hours (4,000 and 2,000 UAH/MWh, respectively). Generally, the weighted average market price showed a stable [upward trend](#) - from 2,821.67 UAH/MWh to 3,500.95 UAH/MWh. At the same time, the Base DAM indices in the countries of Eastern Europe (Poland, Hungary, Romania, and Slovakia) [exceeded](#) the similar index of Ukraine 1.66-2.39 times.

Generally, the daily volume of sales on DAM [increased](#) from 43,885.9 to 88,695.8 MWh. As a result, the total volume of electricity sold increased to 365,741.6 MWh (+37% as compared to the same period previous week). Despite a noticeable increase in demand, the market remained in surplus - the ratio between the total volume of sale and purchase bids was 1.51-2.23; no deficit hours were observed. [The purchase structure](#) was dominated by suppliers (71.9-80.8%), the share of system operators was 19.1-27.6%, the rest (about 0.1-0.5%) belonged to producers and traders.

Disruption and resumption of supply

As of March 5, the Ministry of Energy did not update information on the restoration of supply and the number of consumers without electricity.

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

- in the **Zaporizhzhia region**, [according](#) to the local DSO, as of 07:00 on March 6, 28,716 consumers in 78 settlements remained offline (excluding the temporarily uncontrolled territory). On March 3-5, specialists restored supply to 6,960 consumers of the Zaporizhzhia, 1,880 of the Stepnohirsk, and 548 of the Vilniansk power grids, which were disconnected due to enemy's shelling and technological violations. The hostilities caused new outages in the Stepnohirsk (4,302 consumers offline) and Orikhiv (464) districts;
- in the **Odesa region**, [according](#) to Ukrenergo, since February 28, there have been no power outages due to both balance and network restrictions. The grid is already able to distribute all electricity consumers need. By March 15, it is planned to complete the main works to restore the reliability of the region's power supply, so that disconnections of any element of the grid does not lead to large-scale restrictions on consumption;
- in the **Dnipropetrovsk region**, according to the Regional Military Administration, on March 4-5, the enemy opened fire on the Nikopol district. As a result, power lines were damaged in the city of [Nikopol](#) and the [Marhanets community](#), and power grids were damaged in the [Chervonohryhorivka community](#), leaving

residents offline. [According](#) to the local DSO, on March 4, repair crews resumed electricity supply to 1,117 households in 3 settlements in the south of the region, which were disconnected due to hostilities;

- in the **Kherson region**, [according](#) to the Regional Military Administration, as of March 4, 36 crews (201 specialists and 65 pieces of equipment) were working to restore electricity supply. Specialists performed works on the damaged lines supplying the cities of Kherson and Beryslav, the towns and villages of Bilousove, Olhyne, Myroliubivka, Vysokopillia, Biliayivka, Kalynivske, Pravdyne, Kirove, Nova Zorya, Stanislav, and Posad-Pokrovske. On March [3](#) and [4](#), the specialists restored electricity supply to all consumers in the villages of Daryivka and Fedorivka (Daryivka community), which had been offline for 4 months, as well as in the village of Biliayivka (Novooleksandrivka community; 33 metering points);
- in the **Mykolaiv region**, [according](#) to the Regional Military Administration, as of March 6, 1,075 electricity supply facilities were partially or completely damaged (+33 as compared to March 3), while 4 settlements of the Bashtanka and Mykolaiv districts remained offline;
- in the **Donetsk region**, [according](#) to the local DSO, on March 2-3, specialists restored electricity supply to 4,333 consumers in 16 settlements. 107 settlements remained offline, as specialists did not have access to works there;
- in the **Kharkiv region**, [according](#) to the local DSO, from March 6, the schedule of power outages will not be applied;
- in the **Sumy region**, [according](#) to the Regional Military Administration, on March 3-5, the Russians shelled border communities of the region, as a result power lines were damaged in the [Shalyhine](#), [Bilopillia](#) and [Znob-Novhorodske](#) communities;
- in the **Chernihiv region**, [according](#) to the Regional Military Administration, on the night of March 5, 2 power lines of 10 kV and 24 transformer substations were damaged and disconnected due to bad weather conditions. 1,283 consumers in 11 settlements remained without electricity supply;
- there was no up-to-date consolidated information on power supply in the **Luhansk region** at the time of the review preparation.

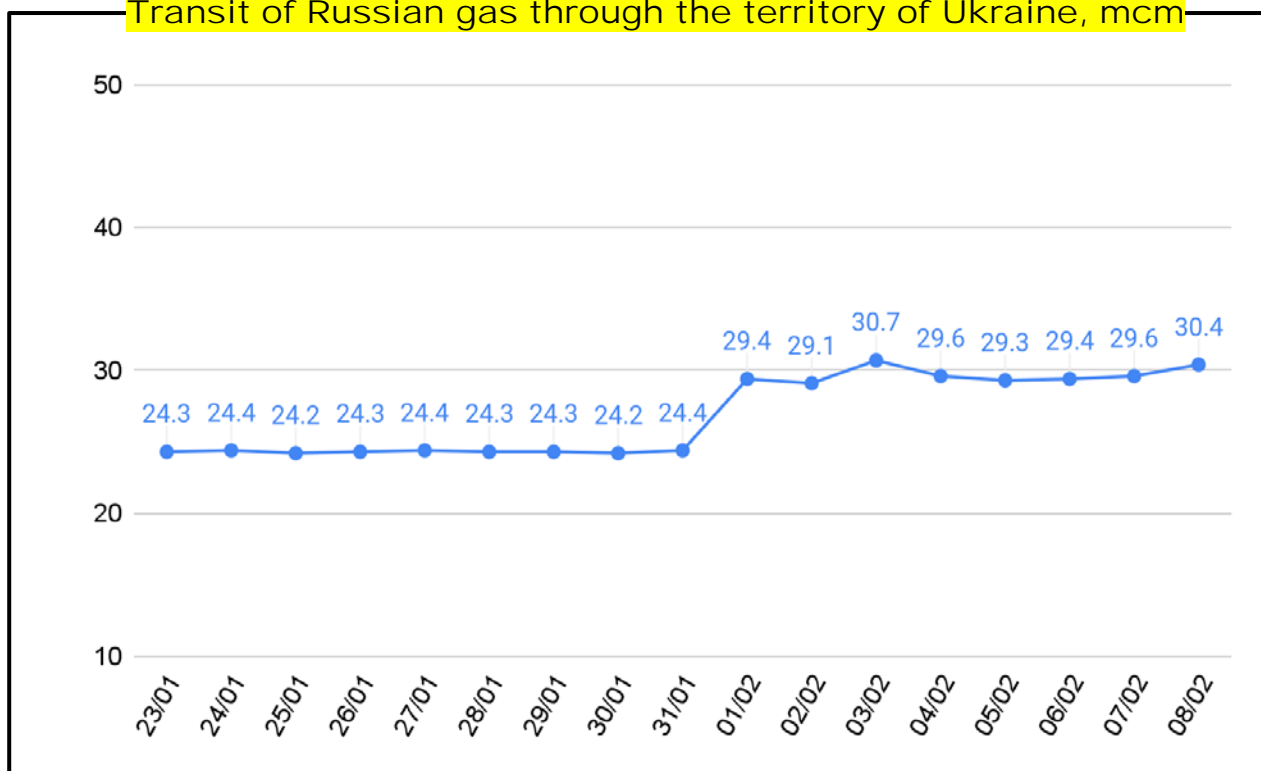
Oil & Gas Sector

Gas system performance

On March 2-4, the volume of gas transit through the territory of Ukraine ranged 40-42.6 mcm/day, i.e. only 37-39% 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 in the reporting period were reported at 37.8 mcm (on average, 12.6 mcm/day) and performed via the Beregdaroc interconnection point (VIP Bereg) at 20.2 mcm, via the Hermanowice interconnection point (VIP Ukraine-Poland) at 4.9 mcm, via the the Budince interconnection point at 10.2 mcm and via the Căușeni interconnection point (Ukraine-Moldova) at 2.5 mcm. On March 2-4, 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: [GTSOU](#)

Functioning of the oil and oil products market

The Security Service of Ukraine [reported](#) the seizure of 16,000 tons of fuel (cost: 800 million UAH). As indicated in the press release, in that way the service blocked the possible illegal sale of these oil products, which were illegally taken from Ukrnafta and Ukrtatnafta by the previous management of these companies. Currently, the issue of arresting seized oil products and their subsequent transfer to the needs of the Defense Forces is being resolved. The Security Service discovered that, in 2022, representatives of Ukrtatnafta shipped fuel to the affiliated companies without displaying the transactions in tax reporting. Subsequently, controlled gas stations sold wholesale volumes of oil products without paying excise tax.

Disruption and resumption of supply

As of March 5, the Ministry of Energy did not update information on the supply restoration and 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 3, 14,560 consumers in 37 settlements [had no gas supply](#). On March 2, gas supply was restored to 484 households in the city of Zaporizhzhia. Probably, it is [restoration](#) of gas distribution to the residents of buildings located next to the high-rise building destroyed by a Russian missile on the night of March 2. In other settlements, where possible, restoration works will be carried out immediately after obtaining access to the damaged sites and taking into account the security situation.

In the **Mykolaiv region**, according to the Regional Military Administration, as of March 6, 1,383 gas infrastructure facilities (+3 as compared to March 3) were damaged during the war, as a result, 5,249 consumers (-22) [remained with no gas supply](#).

In the **Dnipropetrovsk region**, as a result of enemy's attacks, gas distribution infrastructure of the [Chervonohryhorivka](#) and [Marhanets](#) communities was damaged.

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

In six months, Ukrainian energy specialists, government officials, the security and defense sectors must take specific steps to enter the next heating season ready for any threats, as the President of Ukraine Volodymyr Zelenskyi [emphasized](#). In particular, according to him, it is necessary to strengthen the protection of energy facilities and restore the infrastructure destroyed by Russian strikes over the past six months. In addition, as the President [noted](#), Ukrainians should be given more opportunities to install household-level electricity generation and supply facilities as part of the energy system decentralization project.

Ukraine will strengthen the protection of power distribution systems and generation facilities with shelter, anti-aircraft and anti-missile defense systems, [said](#) the Prime Minister Denys Shmyhal. "We plan to take effective measures to protect distribution substations from enemy's drone and missile attacks. Relevant projects have already been developed and will be implemented soon. We will do this throughout the year in preparation for the next heating season," he emphasized.

At the Congress of Local and Regional Authorities meeting, the Minister of Energy Herman Halushchenko [said](#) that damaged generating facilities (where appropriate) are already being repaired, transmission and distribution systems are being restored, and projects are being implemented to construct small gas-fired power generation decentralized among settlements and individual consumers. Also, he said that active development of RES is expected. Government programs are planned to provide incentives to backup power systems for critical infrastructure and households, which include the installation of solar panels or wind turbines with energy storage and suitable hybrid inverters that can operate both in autonomous mode and in synchronization with the grid.

At the meeting of the Partnership for Transatlantic Energy and Climate Cooperation (P-TECC) in Zagreb, Halushchenko [called](#) on the partners to create a common European reserve of emergency equipment to enable fast response in the event of new massive missile strikes. The Minister also emphasized the need to strengthen sanctions on Russia and strictly monitor their enforcement.

The European Commission will send the first shipment of solar panels for public buildings to Ukraine, [according](#) to the EC President Ursula von der Leyen. "ENEL (Italian energy company) will donate 5,700 panels to Ukraine. The solar panels are manufactured in Europe, in Catania, with the support of the European Innovation Fund", she announced. Von der Leyen also expressed confidence that the volume of such assistance will increase. [According](#) to the Ministry of Energy, the panels will arrive in Ukraine by summer, they are capable of covering 11,000 sq. m of public building roofs.

The President Volodymyr Zelenskyi [said](#) that in March, following the Congress of Local and Regional Authorities, the Cabinet of Ministers will prepare decisions that communities need for budget sustainability. Relevant amendments to the law on the state budget of Ukraine will be proposed to the Verkhovna Rada. The Prime Minister Denys Shmyhal, in turn, [called](#) on community leaders to more actively provide information to the Registry of Property Damaged and Destroyed as a Result of Russia's Full-Scale Aggression, emphasizing this precedes reconstruction.

More than 10 partner countries have taken under their patronage the reconstruction of certain facilities or regions of Ukraine, as the Prime Minister Shmyhal [said](#). He also emphasized that the government pays attention to direct contacts between communities and twin cities. In particular, [according](#) to the Kherson Regional Military Administration, the Chornobaivka community has been selected to participate in the Project UA2011-01 "Providing Expert and Technical Assistance to the Government and Regional Administrations in the Development and Implementation of Recovery Plans" funded by the UK government.

The media [cited](#) the Prime Minister Denys Shmyhal saying that subsidies for maintaining regulated energy prices for households reached 400 billion UAH in 2022. "Over the past year, Energoatom and Ukrhydroenergo paid 107 billion UAH under public service obligations, i.e. to compensate for the difference between the market value and the cost for households, and Naftogaz paid more than 200 billion UAH. That is, Ukrainian energy companies have paid more than 300 billion UAH to compensate for this difference in tariffs", the Prime Minister was quoted. As noted, municipal district heating companies and local authorities additionally compensated more than 100 billion UAH.

For the first month of the all-Ukrainian program, more than 2 million Ukrainians [exchanged](#) 10 million incandescent lamps for the same number of LED lamps at Ukrposhta offices. As of March 3, the number of exchanged lamps in the Kyiv and Dnipropetrovsk regions has surpassed 1 million each, followed by the Lviv (840,000), Kharkiv (610,000), Odesa (600,000) and Vinnytsia (590,000) regions.

As part of the United for Justice conference, the attorneys general of the Joint Investigation Team (JIT) member states signed an [agreement](#) to establish an International Center for the Investigation of Crimes of Russia's Aggression in The Hague, which will start operating in summer 2023. The Prosecutor General of Ukraine Andrii Kostin emphasized the operation of this International Center will be the first step towards the creation of a Special Tribunal on the crime of aggression by the Russian political and military elite against Ukraine. It is assumed that prosecutors will work in this center to collect evidence of the crime of aggression.

Kostin also announced the creation of the Dialogue Group to coordinate national and international efforts to bring to justice crimes committed in Ukraine as a result of Russia's armed aggression. The statement was joined by the Deputy Prime Minister of the Netherlands and Minister of Foreign Affairs Wopke Hoekstra, the European Commissioner for Justice Didier Reynders, International Criminal Court Prosecutor Kareem Khan, the President of Eurojust Ladislav Hamran, and the Minister of Foreign Affairs of Ukraine Dmytro Kuleba. "As a platform for cooperation, the Dialogue Group will assist justice actors in Ukraine and third countries, international mechanisms and civil society", Kostin summarized.

The President of Ukraine Volodymyr Zelenskyi [expressed](#) hope that the United for Justice conference would be an impetus for the UN General Assembly to adopt a draft Ukrainian resolution on the establishment of a special tribunal. He also said that the tribunal would be the factor that would solve the problem of the International Criminal Court's (ICC) inability to prosecute certain individuals for the crime of aggression. Zelenskyi also noted that the ICC office is opening in Ukraine and called it a great event for justice.

In this context, the Prime Minister Denys Shmyhal [said](#) Ukraine is working with partners to create a mechanism for the confiscation of Russian assets that can be used for reconstruction. The mechanism will consist of four elements: the International Registry of Losses; the Compensation Commission, which will consider applications for compensation for losses; the Compensation Fund, from which compensations will be paid; and the mechanism for implementing decisions made by the Compensation Commission. Shmyhal added that the special compensation mechanism will be based on an international treaty that Ukraine is developing together with partner states.

Denys Shmyhal also [said](#) that the competition commission had identified and submitted to the Cabinet of Ministers its proposals on three finalists for the position of the National Anti-Corruption Bureau Director. According to the PM, the government will approve the Bureau's director at its next meeting. The day before, the government [approved](#) the 2023-2025 State Anti-Corruption Program.

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