

Daily Alert

**Russian War Against
Ukraine: Energy Dimension**

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#StopRussianAggression

#StandWithUkraine

Summary of the week (March 13-17)

- **Russia continues to deliberately destroy critical infrastructure.** Over the past week, enemy artillery shelling damaged networks and infrastructure in Kharkiv, Donetsk, and Kherson regions. In 6 months (September 2022 - March 2023), **Ukraine's air defense forces shot down about 700 missiles and more than 650 kamikaze drones** that Russia launched at energy infrastructure facilities.
- **Enemy's attacks continue in the information space:** since the first days of the war, attempts to attack Ukrenergo's IT systems have increased tenfold, with cyber defence specialists facing hundreds of cyberattack attempts every day.
- **During the week, the power system operated without a deficit.** Grid restrictions due to the consequences of Russian attacks were in effect in Zhytomyr, Kharkiv, Poltava, Sumy, Kyiv regions and the city of Kyiv, which led to electricity cuts to avoid equipment overload and accidents. The situation remains difficult in the regions along the frontline, where the enemy is constantly damaging distribution networks with shelling. The connection of all household consumers left without electricity resulting from the hostilities was completed in Mykolaiv region.
- **Unauthorized changes to the operation of nuclear facilities continue at the occupied ZNPP.** According to the Acting Head of the State Nuclear Regulatory Inspectorate Oleh Korikov, interference with the operation of heat and power supply systems has been recorded, and unknown structures are being built near the backup power plant of Unit 6. The internal crisis center at the ZNPP site has been dismantled and has no connection with the external crisis center in Zaporizhzhia. Meanwhile, the

IAEA Director General Rafael Grossi said there is a viable solution for the safe operation of the ZNPP, and it requires international support. No details of the possible agreement were disclosed.

- **Ukrenergo is implementing a record-breaking equipment replacement program in the company's history** - so the CEO Volodymyr Kudrytskyi. In addition, the TSO is developing options for protecting facilities from missile attacks, including the latest technologies to make main substations compact and protect them by placing them underground or using shelters.
- **On the first anniversary since the IPS of Ukraine was synchronized with ENTSO-E**, some results have been reported. E.g., in the period of regular Russia's massive missile attacks, the volume of technological cross-border flows from the EU countries reached a maximum of 2 GW, and imports - 560 MW. Capacity fees and payments under public service obligations assigned to exporters yield Ukraine an additional 8.7 billion UAH.
- **The Cabinet of Ministers plans to start restoring the energy sector by the fall: rebuilding new facilities and protecting existing ones.** The government approved the 2023 Priority Action Plan, with energy security among its 6 crucial areas. Namely, key tasks identified are: restoration and protection of energy facilities (generation and distribution), preparation for the 2023-2024 heating season, full integration of the electricity markets of Ukraine and EU, increasing the cross-border capacity for exchanges of electricity, renewable energy, Green Deal, improving safety of nuclear power plants, thermal modernization of residential and public buildings.
- **The State Agency for Reconstruction and Infrastructure Development is concentrating resources for initiatives and projects.** The government allocated 5 million UAH from the State Budget (reserve fund) on a pilot project for the construction and repair of energy infrastructure. The funds are received by the State Agency for Reconstruction, which will work in coordination with the Ministry of Energy, the State Emergency Service, the General Staff of the Armed Forces and critical infrastructure operators. The State Agency for Reconstruction also announced the launch of a training course on March 16 for Ukrainian communities. Meanwhile, the former Head of the State Agency for Energy Efficiency Valerii Bezus was appointed Advisor to the Vice Prime Minister for Reconstruction. He will work on including the use of energy-efficient tools, RES and alternative fuels in the process of recovery.
- **The authorities are strengthening project-based cooperation with international partners.** The government and the Energy Community Secretariat signed a memorandum on support for priority projects in the construction and reconstruction of energy infrastructure, as well as the restoration of RES facilities. Oleksandr Haidu, the Chairman of the Verkhovna Rada Committee on Agrarian and Land Policy, announced that, in two years, Ukraine plans to build 10 biomethane production facilities. He also announced the EIB plans to allocate 50 million EUR to support agro-processing, including the production of biomethane and bioethanol.
- **Poland and Ukraine are expanding bilateral cooperation.** The Polish PM Mateusz Morawiecki said cooperation could include gas exploration in the western part of Ukraine, launch of Khmelnytskyi NPP - Rzeszow interconnector, and Rivne NPP - Chełm interconnection project. The media reported on the plans of Polish operators of electricity, gas, and oil transmission networks to sign an agreement with the Ukrainian side to deepen cooperation. So far, the memorandum has been signed by GTSOU and Gaz-System, and the parties will work on long-term firm capacities at interconnectors; removing barriers to cross-border gas trade; and analyzing the possibility of transporting LNG with the possible use of Ukrainian storages. The companies will also promote available supply routes to Ukraine, such as the Baltic Pipe, interconnectors

with Lithuania and Slovakia. A research platform for the transmission of renewable gases, such as biomethane and hydrogen, will be created.

- **Ukraine plans to complete licensing and launch commercial production of shanks (liners) for Westinghouse nuclear fuel in 2023.** According to the Minister Herman Halushchenko, production of top nozzles for fuel assemblies is to begin in 2024. The components will be used for the production of nuclear fuel for Energoatom's needs at the Westinghouse facility in Sweden. The President of Energoatom Petro Kotin added the company plans to develop its own nuclear fuel production line in three years. Meanwhile, as part of the High Level International Advisory Council, the first meeting of the working group to supervise the corporatization of Energoatom has convened.
- **The NEURC postponed consideration of decisions on the increase of electricity distribution tariffs,** yet plans to consider raising tariffs for centralized water supply and sewerage in March. Meanwhile, Ukrainians have already received 12 million LED light bulbs under the EU-supported exchange program for old incandescent bulbs.
- **The Asset Recovery and Management Agency (ARMA) may be liquidated.** The Chair of the Verkhovna Rada Committee on Finance, Taxation and Customs Policy Danylo Hetmantsev confirmed that the parliament is going to liquidate the ARMA. The main complaint against the agency is the non-transparent sale of property.
- **Naftogaz submitted a new proposal (revised working scenario) to restructure payments on its 2022 and 2026 Eurobonds.** In a presentation for creditors, it also outlined main sources of gas supply during the 2022/2023 heating season (13.9 bcm): 1 bcm is covered by imports, 5.3 bcm - taken from storage, and 7.6 bcm - production of Ukrgezvydobuvannia. On the consumption side, the estimated volume for households is 6.6 bcm, for district heating companies - 5.1 bcm, for electricity producers - 0.8 bcm, and for others - 1.4 bcm. Naftogaz noted that 3 bcm are still needed for the rest of the heating season (March-April).
- **Last year, Naftogaz imported almost 1 bcm of gas.** The purchases were financed by the EBRD (225 million EUR loan), Canada (323 million EUR aid), and Norway (189 million EUR grant). From October 2022 to February 2023, the company managed to purchase 923 mcm of gas on foreign markets for 737 million EUR.
- **The business community considers the creation of an integrated gas distribution systems operator by Naftogaz as a risk of reforms rollback.** The European Business Association addressed a letter to the EU Delegation to Ukraine, the Energy Community Secretariat, the IMF, and the European Commission regarding non-compliance with market principles and reforms achieved in the gas sector. "The introduction of a single gas distribution systems operator (within the state-owned energy company), which will provide gas distribution services in most of the territory of Ukraine, into the structure of a vertically integrated enterprise, which is already present in the production, trade, supply and distribution of gas, is not fully compliant with the acquis and obligations of Ukraine as the EU candidate country in the energy sector", the letter says. To remind, Naftogaz provided information on its own share in the gas market - 81% (however, it is unclear which market segment this figure refers to).
- **The number of court proceedings in the interests of the state is growing.** The National Anti-Corruption Bureau and the Specialized Anti-Corruption Prosecutor's Office filed to a court the first episode of the so-called Rotterdam+ case on charges of six persons of causing electricity consumers losses of over 19 billion UAH in 2016-2017. The prosecutor's office, on behalf of the state, filed a lawsuit to terminate the concession agreement for Kharkiv's Eskhar CHP-2 with the company of businessman Pavel Fuks, who is under sanctions. The High Anti-Corruption Court upheld the

preventive measure for Andrii Kobolyev, former CEO of Naftogaz (a bail of 229 million UAH), and obliged him to wear an electronic bracelet.

Nuclear Safety

The President of Energoatom Petro Kotin [said](#) that the water levels in the Kakhovka Reservoir are rising and currently at 14.4 meters, while in the Zaporizhzhia NPP cooling pond it is 16.6 meters, which does not create threats for safe operation. All power units of the plant are shut down and are not operating (4 in cold shutdown mode, 2 in hot shutdown mode). In addition, Kotin reported the Russians are preparing a list of equipment that they will actually steal in case of retreat.

Electricity Sector

Power system operation

[According](#) to the Minister of Energy Herman Halushchenko, on March 17, the power system continues to operate without restrictions of consumers with a capacity reserve; the generation has the necessary volumes of capacity to fully meet the demand of consumers throughout the country. At the same time, restoration works at the high-voltage network facilities damaged by the latest massive shelling continued.

According to Halushchenko, synchronization with ENTSO-E, which took place on March 16, 2022, became an important element for the safety and reliability of the Ukrainian power system, especially during the Russian terrorist attacks on energy infrastructure facilities. Even during the war, [Ukraine exported electricity to the EU countries](#), which helped them to use less of Russian gas and coal. Similarly, synchronization gave Ukraine the opportunity to use electricity imports to stabilize its system during the Russian attacks. In his opinion, in the future, Ukraine will become an energy hub for reliable electricity supply in Europe. According to the Ministry of Energy, due to operation in [synchronous mode with ENTSO-E](#), Ukraine was able to receive an additional 8.7 billion UAH of revenues.

[According](#) to Ukrenergo, on March 17, electricity consumption remained at the level of the same day last week. All types of power plants were in operation, hydropower generation performed strongly due to freshet. Electricity production is sufficient to cover consumption, and minor imports also continued. Due to significant damage, network restrictions remain in the Zhytomyr, Kyiv regions and the city of Kyiv, resulting in outages. Energy infrastructure along the front line, in particular the Donetsk region, still suffered due to artillery shelling. In other regions, consumption restrictions were not applied, limits were not set.

[According](#) to ENTSO-E, as of March 17, minimal commercial imports of electricity were performed from Slovakia (0-7 MW) and Moldova (0-5 MW) (for different hours during the day). Access to the Slovakia->Ukraine cross-border capacity [was booked](#) by two companies (65 MW in total): D.Trading (55 MW) and ERU Trading (10 MW); in the direction Moldova->Ukraine - 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 index of Ukraine 1.2-1.4 times.

Disruption and resumption of supply

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

- in the **Zhytomyr region**, [according](#) to the Ministry of Energy, on March 17, due to the restoration work on network infrastructure, short-term restrictions of electricity supply are possible;
- in the **Kharkiv region**, [according](#) to the local DSO, on March 16, specialists restored power supply to more than 100 consumers in the village of Leshchenky (Kharkiv district), which has been offline since March 2022. Specialists replaced 40 spans of wire and a support. On March 9-15, rescuers examined and [demined 32.4 km](#) of power transmission lines, which made it possible to reconnect 646 consumers. In particular, on March 15 alone, 8.4 km of power lines were demined in the region and 83 consumers were connected back to the grid;
- in the **Kyiv region** and the **city of Kyiv**, according to DTEK, on the morning of March 16, stabilization outages were applied in parts of the Holosiivskiyi, Sviatoshynskiyi, Shevchenkivskiyi, and Solomyanskyi districts of the [city of Kyiv](#), as well as in the Bucha, Obukhiv, and Fastiv districts of the [Kyiv region](#). At 23:00 of the same day, electricity supply was resumed to all consumers [in the capital](#) and the [region](#). On March 17, due to network infrastructure repairs, short-term power supply [restrictions are possible](#);
- in the **Zaporizhzhia region**, [according](#) to the local DSO, as of March 17, 24,767 consumers in 70 settlements remained offline (excluding the temporarily uncontrolled territory). During the day, specialists restored power supply to 3,929 households in the Orikhiv district and 1 consumer in the city of Zaporizhzhia, which were disconnected due to enemy's shelling. On March 16, the hostilities caused new damage to the Orikhiv power grids, as a result 817 consumers were left without electricity supply. There was also 2 single outages in Zaporizhzhia;
- in the **Kherson region**, [according](#) to the Regional Military Administration, as of March 15, 36 crews (174 specialists and 64 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 Zarichne, Novovoznesenske, Tokareve, Biliayivka, Chaykyne, Tomaryne, Novopetrivka, Kucherske, Kalynivske, Pravdyne, Kirove, Nova Zoria, Soldatske, Oleksandrivka, Posad-Pokrovske, and Veletenske. The military also inspected 3.1 km of power lines, on which explosive objects were discovered and destroyed. On March 16, electricity supply to the village of Trudoliubivka (Novovorontsovka community) was [restored](#), with 17 metering points reconnected;
- in the **Dnipropetrovsk region**, [according](#) to the local DSO, on March 15, specialists restored electricity supply to 2,848 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 17, 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, on March 15, specialists managed to reach a number of damaged networks and equipment and repair them, which made it possible to restore electricity supply to 7,964 households in 5 settlements affected by shelling. As a result of 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 **Sumy and Luhansk regions** at the time of the review preparation.

Other

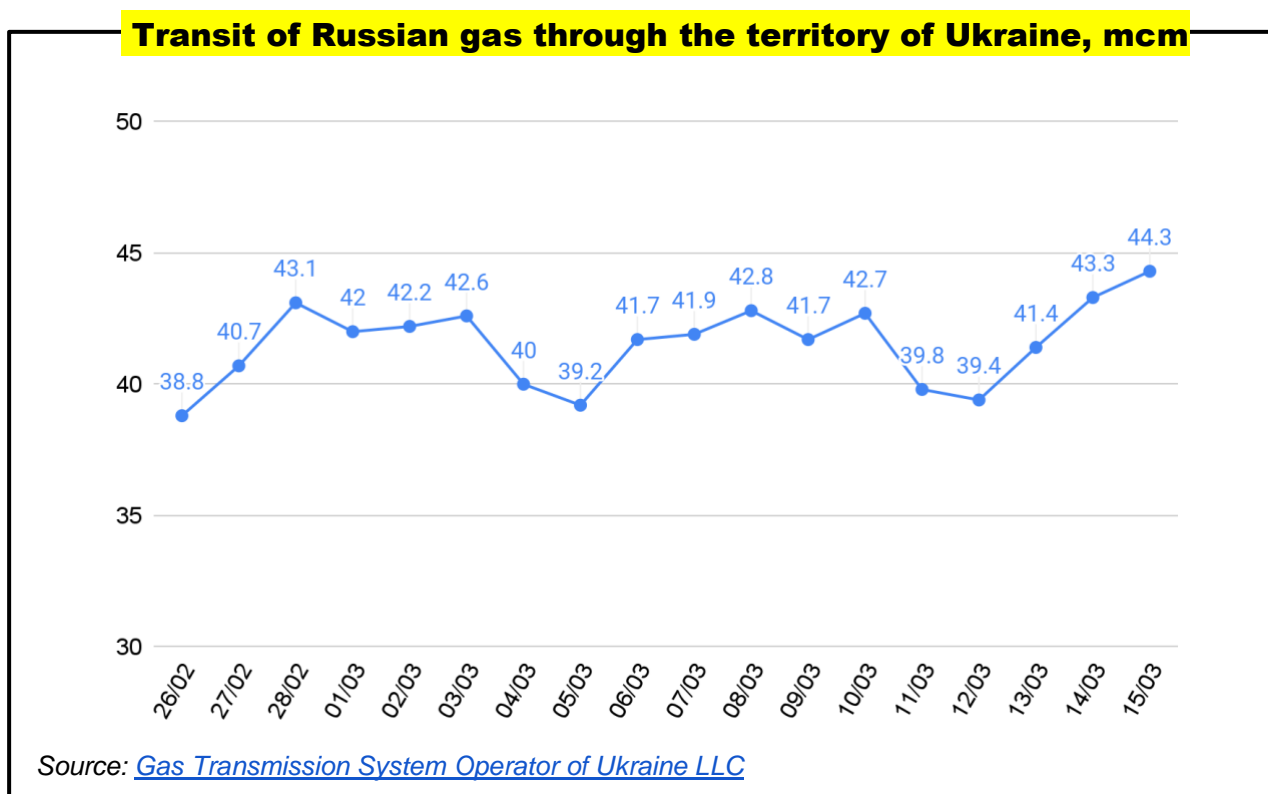
According to the media, one of the reasons for the deficit of coal at state-owned power plants during the heating season was that the management of the Ministry of Energy directed cheap coal from state-owned mines to private consumers at reduced prices. So state-owned TPPs faced a choice: either buy expensive coal from companies of Rinat Akhmetov, or use natural gas. "This sales scheme turned out to be so painful for the Presidential Office that the Security Service of Ukraine started criminal proceedings and in early March searched a number of representatives of the Ministry of Energy. But the story did not become public", writes the author Yuriy Nikolov.

Oil & Gas Sector

Gas system performance

On March 15, the volume of gas transit through the territory of Ukraine amounted to 44.3 mcm (+1 mcm as compared to the previous day), i.e. only 41% 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 12.3 mcm and performed via the Beregdaroc interconnection point (VIP Bereg) at 7.1 mcm, via the Hermanowice interconnection point (VIP Ukraine-Poland) at 1.2 mcm, via the the Budince interconnection point at 3.4 mcm and via the Căușeni interconnection point (Ukraine-Moldova) at 0.6 mcm. On March 15, on Ukraine's gas system exit, except for transit flows, no gas was transmitted.



Functioning of the natural gas market

The European Business Association [addressed](#) a letter to the EU Delegation to Ukraine, the Energy Community Secretariat, the IMF, the General Directorate for Neighborhood and Enlargement Negotiations (DG NEAR) of the European Commission regarding non-compliance with market principles and achieved reforms in the Ukrainian gas sector, in particular the Third Energy Package. "The introduction of a single gas distribution systems operator (within the state-owned energy company), which will provide gas distribution services in most of the territory of Ukraine, into the structure of a vertically integrated enterprise, which is already present in the production, trade, supply and distribution of gas, is not fully compliant with the acquis and obligations of Ukraine as the EU candidate country in the energy sector", the letter says. The EBA hopes the situation will be carefully considered since such a concentration can seriously and negatively affect the market structure.

At the meeting with the Director of the Energy Community Secretariat Artur Lorkowski, the CEO of Naftogaz Oleksii Chernyshov [asked](#) the Secretariat representatives to apply the mechanisms available at its disposal to promote the use of Ukrainian gas storages by market participants, in particular increase the awareness of future gas suppliers within the EU Energy Platform.

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 17, 14,560 household consumers 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 17, 1,388 gas infrastructure facilities (+1 as compared to March 16) were damaged during the war, as a result, 5,171 consumers (-18) [remained with no gas supply](#).

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 has already begun production of nuclear fuel components for VVER-1000 units, and will later start production for VVER-440 units, the Minister of Energy Herman Halushchenko [said](#). In 2023, it is planned to complete licensing and launch commercial production of shanks (liners), and in 2024 - commercial production of top nozzles for fuel assemblies. These components will be used for the production of nuclear fuel for Energoatom's needs at the Westinghouse facility in Vesterås (Sweden). The President of Energoatom Petro Kotin [added](#) the company plans to develop its own nuclear fuel production line in three years.

Gas Transmission System Operator of Ukraine and the Polish TSO Gaz-System [signed](#) a Memorandum of Cooperation to facilitate integration of the Ukrainian and Polish gas markets. In particular, the parties agreed to cooperate to achieve the following goals:

- establishing long-term firm capacities at interconnectors between Poland and Ukraine;
- removing barriers to cross-border gas trade, which will require adjusting gas quality parameters between the two countries;
- analyzing the prospects of LNG transmission between Poland and Ukraine with the possible use of Ukrainian storage facilities.

The companies will also promote available supply routes to Ukraine, such as the Baltic Pipe, the interconnectors with Lithuania and Slovakia. A research platform for the transmission of renewable gases, such as biomethane and hydrogen, will be created. Pilot projects for the production and transmission of biomethane and hydrogen will also be identified and implemented.

The NEURC has [announced](#) a meeting on March 22, where it will consider, inter alia:

- [setting](#) the tariff for the services of the supplier of last resort in the electricity sector for 2Q2023 at 518.20 UAH/MWh (excluding VAT);
- [setting](#) the level of the regulatory fee for 2Q2023;
- [approval](#) of the cost of the service for ensuring the share of electricity production from RES by universal service suppliers in February 2023;
- [amendments](#) to the NEURC Resolution No. 332 of February 25, 2022, which regulates the maximum volume of electricity sales for generating equipment that has resumed operation after damage/force majeure; and sets a 100% cash guarantee for the imbalance responsible party, whose funds have been arrested by law enforcement agencies.

At a joint press conference with the Prime Minister of Latvia Krišjānis Kariņš, the Prime Minister of Ukraine Denys Shmyhal [expressed gratitude](#) for assistance to a number of Ukrainian cities. "We know how actively Latvian cities are helping Ukrainian cities - Chernihiv, Vinnytsia, Mykolaiv - to recover. We know and appreciate the assistance with energy equipment provided by Latvia in the most difficult times of the autumn-winter period this year", the PM emphasized. He also thanked the Latvian government for its decision to participate in the projects to restore the infrastructure of the Chernihiv region.

Istanbul will donate 41 generators to the city of Odesa, the Consulate General of Ukraine in Istanbul [reported](#). The generators, which will allow residents of Odesa to charge phones and PCs and heat their homes, will be installed "in the appropriate centers established by the Odesa municipality".

The city of Khmelnytskyi will [receive](#) a 300,000 EUR EBRD grant to develop a Sustainable Mobility Plan. The City Council noted that the plan will be developed by qualified experts who will be selected at an international tender according to the EBRD rules.

In the city of Cherkasy, a comprehensive thermal modernization (attic and facade insulation, partial replacement of windows) will be [carried](#) out for 10 kindergartens, which will save 45-60% on heating. Another 7 institutions will be equipped with modern heat substations and their heating systems will be balanced, which will save up to 25% of heat energy.

The Verkhovna Rada Committee on Economic Development supported the government's draft law on the basic principles of state supervision (reg. No. [5837](#)). [Reportedly](#), its adoption will ensure the reorientation of the system of state supervision (control) from the currently dominant punitive and repressive to a preventive and risk-oriented one, which will facilitate business, the development of small and medium-sized enterprises, and investment. An e-cabinet for entrepreneurs will also be introduced, allowing them to file

complaints and refuse to undergo a comprehensive inspection through the e-system, etc. Along with this draft law, the Verkhovna Rada is expected to consider the government's draft law on amendments to the Code of Administrative Offenses to increase the responsibility of officials of state supervision authorities (reg. No. [5838](#)).

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)

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To financially support the Armed Forces of Ukraine, please follow the [link](#) (the National Bank of Ukraine special account).