Russian War Against Ukraine: Energy Dimension

DiXi Group alert

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#StopRussianAggression
#StandWithUkraine

Summary of the Week (June 13-17)

- As of June 14, 86% of deoccupied settlements (almost 875 towns and villages) are supplied with electricity. As of June 16, 751 settlements (almost 624,100 consumers) in Ukraine are disconnected due to the damages caused by hostilities.

- App. 182,000-178,500 consumers remained without gas supply all over Ukraine.

- Ukraine's energy infrastructure continues to suffer destruction and damage. According to the Minister of Energy Herman Halushchenko, almost 5% of generating capacity has been destroyed, and 35% was located in the occupied territories. Due to Russian troops shelling, more than 50% of coal/gas-fired, 30% of solar and over 90% of wind generation capacities were offline; gas production volumes decreased by app. 12-15%.

- Ukraine warns the EU to oppose the Russian "salami tactics". According to the president of DiXi Group Olena Pavlenko, by reducing every kWh of Russian gas supplies to the EU member states, Putin is waiting for one of "dear friends" - Germany, Italy, or Hungary - to start panicking and make concessions to lift sanctions, ease them or at least prolong the status quo in energy trade. The only winning line for the EU is the realization that any concessions to the aggressor would only increase its desire to put pressure.

- The government increases regulation on gas and other energy markets before the 2022/2023 heating season. To accumulate energy resources, the government set zero quotas for 2022 exports of fuel oil, certain types of coal (except coking ones) and solid fuels made of coal, as well as natural gas of Ukrainian origin (not apply to gas in storage under "customs warehouse" mode, as well as to the imported resource). The government also approved the allocation of 95% of 2021 Naftogaz net profits (12.4 bn UAH) for the payment of dividends to the state budget. GSC Naftogaz of Ukraine LLC had retroactively included in its consumers' registry 8.8 million customers to supply gas under "social" tariff (7.96
The change in the gas TSO corporate governance model was approved, which provides for direct subordination to the government.

- The financial assistance and new opportunities/technologies are among the key topics of international consultations in energy. The EBRD has approved a loan of up to 300 million EUR to help Naftogaz, which will use the initial tranche of 50 million EUR (already available) for emergency gas purchases. According to Foreign Policy, Ukraine has also offered the United States a lend-lease agreement for the supply of LNG. Also, Naftogaz signed a memorandum with the Canadian company Symbio Infrastructure on the supply of LNG and "green" liquid hydrogen (LH2) starting from 2027. According to the Ministry of Energy, Ukraine submitted a bid for associate membership in the International Energy Agency.

- Seizures of assets of companies belonging to sponsor country of aggression against Ukraine continue. The Security Service and the Prosecutor General's Office announced the arrest of assets of BNK-Ukraine, a fuel trader of Belarusian Oil Company and Belorusneft. The assets of a Belarusian company that provides services in the field of oil&gas exploration and production were also arrested. According to media, it is Service Oil LLC, founded by the Belarus-based OJSC Pukhovichinefteproduct, with Belorusneft as the main shareholder.

- The operation of the day-ahead market (DAM) was relatively stable during June 13-17. The average weighted electricity purchase price fluctuated in the narrow range of 2,237-2,352 UAH/MWh, and the daily trading volume varied from 13,300 to 21,000 MWh, representing around 5-8% of the daily electricity consumption in the energy system of Ukraine. Together with that, the Base DAM indices in Slovakia, Hungary and Rumania exceeded by app. 2.7-3.6 times Ukraine’s Base DAM index; the price spread with the market of Poland was 1.9-2.6 times.

- Ukraine ensured electricity exports at the stable schedule to Poland (210 MW) and Moldova (142 MW). At the same time, due to agreements between Ukraine and ENTSO-E, the pilot commercial exports to the Eastern European countries at 100 MW may begin - with the possibility of further increase. Meanwhile, Energoatom estimates its exports potential at 2,000-2,500 MW and together with Ukreenergo and the Polish operator PSE works on restoration of the international power line to increase exports.

- Despite the restoration of data transmission from the ZNPP to the IAEA on the guarantees of nuclear materials control, the Agency’s Director General Rafael Grossi continued to insist on the direct expert mission to the ZNPP for verification of nuclear material. The new reason was called the load of fresh nuclear fuel in the recent months to the two ZNPP units, and the need for verification as a precondition for potential launch. Otherwise, according to Grossi, the implementation of the nuclear guarantees principles will be “compromised”. However, Ukraine is against such a visit until the ZNPP and the city of Energodar are deoccupied. According to the assessments by Energoatom, the amount of material damage, made to the company by the Russian occupiers, is around UAH 40 bn (including destroyed facilities during shellings and fires, damaged ZNPP equipment, losses from the forced reduction of electricity generation).

**Nuclear and Radiation Safety**

The Russian occupiers continued information terror of Energodar citizens and the Zaporizhzhia NPP employees. Some collaborators and "newly appointed" pseudo-leaders of the city were conducting a systematic information campaign about future changes in the operation of the station, which allegedly involves its transfer, starting from September 1, under the control of Russia and Rosatom. In addition, the occupiers regularly reported on the readjustment of the station's circuit for further direct supply of electricity to the Crimea.

Energoatom stressed that the ZNPP is currently operating and will operate in the Integrated Power System of Ukraine and in accordance with the Ukrainian legislation. Its temporary capture by the
Russian military does not mean the transfer of the station to the aggressor country. In addition, the leaders of Energoatom and Ukrenergo have repeatedly stressed that the organization of electricity supply from ZNPP to the Crimea is an extremely difficult technical task with a low probability of implementation, even in the medium term.

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. Also, according to Ukrenergo, exports to Moldova were at 142 MW. At the same time, Energoatom continued to book 150 MW (flat schedule) of export capacity to Moldova at daily auctions. In addition, 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. On June 16, after emergency and recovery works, the last 750 kV overhead line was put into operation. The power node of the central region was working under a normal scheme again. Currently, fiber-optic lines are being restored. In the northern region, at a 330 kV substation, restoration of protection equipment of 330 kV lines was underway. In the eastern region, 3 cable damages on a 330 kV line were eliminated, and 6 spacers were replaced.

**Electricity market performance**

**Day-ahead market (DAM):** On June 17, the weighted average settlement price almost did not change and amounted to 2,236.53 UAH/MWh (-0.7%). In general, according to the Energy Map service, during the working days of the week (June 13-17), the weighted average price remained relatively stable and fluctuated in the range of 2237-2352 UAH/MWh. At the same time, as of June 17, the Base DAM indices of Romania, Slovakia and Hungary have synchronously increased to 3.5-3.6 times over the DAM Base index of Ukraine. Instead, the price spread with the Polish market amounted to 2.6 times.

The total volume of trading slowly increased to 13,478.9 MWh (+1.3% vs the previous day). In general, according to the Energy Map service, in the working days of the week (June 13-17) the volume of trading was relatively small and ranged from 13.3 to 21 GWh. At the same time, the supply continues to show a declining trend to 85,307.5 MWh (-2.4%). The combination of these factors contributed to the decrease of DAM surplus: the gap with the volume of purchase bids reduced from 6.6 to 6.3 times. The structure of purchase changed: the dominant part was occupied by suppliers (51.9%) and system operators (48%), and mere 0.1% by producers.

**Intraday market (IDM):** On June 16, the weighted average price of electricity on IDM also did not change and was at 2,452.97 UAH/MWh. At the same time, the total volume of trading showed a sharp jump to 738.7 MWh (12.3 times higher vs the previous day). Supply slowly increased to 46,560.2 MWh (+12.8%) and these changes led to a significant reduction in the surplus of IDM - the gap with the volume of purchase bids dropped from 688 to 63 times. In the structure of purchase, the dominant part was occupied by suppliers (98.8%), and 1.2% by system operators.

**Disruption and resumption of supply**

According to the Ministry of Energy, as of June 16, due to the damage caused by hostilities, a total of 624,100 consumers in 751 settlements were disconnected from electricity supply. During the day, electricity supply was resumed to app. 21,200 consumers.

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

- in the Donetsk region, according to the local DSO, specialists restored electricity supply to app. 11,000 households in 15 settlements of the Pokrovsk, Bakhmut and Kramatorsk
districts; 317 settlements were left without electricity supply (according to the Ministry of Energy - more than 362,200 consumers);

- in the **Luhansks region**, according to the Ministry of Energy, more than 128,200 consumers were left without electricity supply;

- in the **Kharkov region**, according to the Ministry of Energy, app. 36,800 consumers remained without electricity and supplies were resumed to 8,300 consumers during the day. Local DSO specialists have fully restored the damage caused by intense shelling of the high-voltage substation "KIPT" in the Pyatykhatky district (Kharkiv), which plays a key role in the power supply of the district, oncology center, the Kharkiv Institute of Physics and Technology, and municipal infrastructure;

- in the **Zaporizhzhia region**, according to the local DSO, as of 07:00 on June 17, 21,135 consumers in 77 settlements remained without electricity supply. During the day, the DSO specialists repaired damage and restored supplies to 1,853 households in the city of Zaporizhzhia and to 42 households in the village of Tavria, which were disconnected due to shelling. At the same time, due to the shelling in the Vasylivka district, 80 consumers in the village of Plavni were left without electricity supply, also there was a single disconnection in Zaporizhzhia;

- in the **Mykolaiv region**, according to the Regional Military Administration, as of June 17, 406 power supply facilities were partially or completely damaged, 4 of them in the last 24 hours. 93 settlements of the Bashtanka and Mykolaiv districts remained without electricity supply;

- in the **Kherson region**, according to the Regional Military Administration, as of 11:00 on June 16, among the communities with communication established, 22 settlements in the Vysokopillya, 7 in Novovorontsovka, 3 in Novoolesandrivka, 2 in Mylove and 2 more in Muzykivka communities remained without electricity supply. According to the Ministry of Energy, electricity supply to 1,300 consumers was restored during the day;

- in the **Sumy region**, according to the Ministry of Energy, electricity supply to 500 consumers was restored during the day;

- in the **Chernihiv region**, according to the Regional Military Administration, as of 06:00 on June 17, 636 consumers did not receive electricity supply services;

- there was no up-to-date consolidated information on power supply in the **Dnipropetrovsk and Odesa regions** at the time of the review preparation.

### Gas Sector:

As of June 15, the gas transit through the territory of Ukraine decreased by 0.5 mcm as compared to the previous day and amounted to 41.3 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 0.9 mcm. At the same time, part of these volumes may be a transit from Poland to Hungary via Ukraine, as on June 14, on Ukraine’s gas system exit via the Berehove interconnection point (virtual interconnection point "Bereg") 1.6 mcm of gas was shipped.
Disruption and resumption of supply

The Donetsk, Luhansk, Zaporizhzhia, Kherson, Mykolaiv, Chernihiv and Kharkiv regions had the most challenging situation in gas supply. According to the Cabinet of Ministers, as of June 16, 175,600 consumers were left with no gas supply. Gas supply was restored to 3,000 consumers during the day.

In the Donetsk region, as of June 16, the situation didn’t change: almost the whole region remained without gas supply due to the main gas pipeline damage. Only 1,900 consumers in 2 settlements had supply.

In the Luhansk region, there were no changes in gas supply: it was completely suspended due to hostilities which were deeply destroying the region's critical infrastructure.

In the Kherson region, as of 11:00 on June 17, 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. However, there is no mobile connection in some of these communities, so there was no up-to-date information on gas supply. LPG reserves were running out in 4 communities (Tyahynka, Hornostaivka, Velyka Lepetykha and Rubanivka); in the Novoraysk community, LPG supply had run out.

In the Kharkiv region, the local DSO announced the resumption of gas supply to 2,600 consumers in the city of Derhachi and the village of Mala Danylivka. In total, gas supply was restored to 8,000 consumers in the Derhachi community.

In the Zaporizhzhia region, as of the morning of June 16, 81,118 consumers in 107 settlements remained without gas supply. The day before, in the city of Orikhiv, distribution and supply low-pressure gas pipelines were damaged by shelling. Repair works were carried out in Orikhiv at the same time.
In the Mykolaiv region, as of June 17, the situation with gas supply didn’t change - 631 gas infrastructure facilities were destroyed or damaged for the whole period of war, and 6,656 consumers were left without gas supply.

According to the Chernihiv Regional Military Administration, as of the morning on June 17, about 900 consumers in 23 settlements have not received gas supply service.

Operational information on gas supply in the Sumy region was not available at the time of the review preparation.

### Countermeasures of Ukrainian Companies and Public Authorities

The President of Ukraine Volodymyr Zelenskyi in his evening video address stated that the Russia-provoked increase of gas prices in the EU should be another argument in favor of the Europeans to refuse from Russian fuel. According to him, Russia has intentionally limited supplies and will continue to use the gas value chain to harm and intimidate Europe. The only way of stopping this is the suspension of buying Russian fuel. The President also reminded that Russia had provoked a global food crisis by blocking all Ukrainian seaports.

Olena Pavlenko, the president of DiXi Group, suggested that Russia is using "salami tactics" in the energy sector: by reducing every kWh of Russian gas supplies to the EU member states, Putin is waiting for one of "dear friends" - Germany, Italy, or Hungary - to start panicking and make concessions to lift sanctions, ease them or at least prolong the status quo in energy trade. According to Olena Pavlenko, if the "salami tactics" appear successful for Putin, it would be the best motive to increase pressure on Europe due to the approaching winter. Thus, the only winning line for the EU is the realization that any concessions to the aggressor would only increase its desire to put pressure.

The Deputy Minister of Energy for Digital Development, Digital Transformations and Digitalization Farid Safarov invited leaders of the European energy sector and heads of energy companies to participate in the reconstruction of Ukraine. According to Safarov, the company can choose a region, district or city to help rebuild energy infrastructure, making it better, more environmentally friendly and safer. He stressed that Ukraine is already receiving significant assistance: 33 companies have received more than 300 generators, about 45 kilometers of cables and 560 overhead line pylons, as well as 11,000 units of other specialized equipment. More aid is distributed among distribution system operators to restore electricity supply to consumers.

The Kyiv City Prosecutor's Office announced the seizure of assets of a Belarusian company that provides services in the field of oil&gas exploration and production. The authorized capital (almost 1 billion UAH), as well as real estate and movable property of the enterprise (3 billion UAH in estimated value) were seized. According to media reports, the company is Service Oil LLC, its founder is the Belarus-based OJSC Pukhovichin nefteproduct, with Belorusneft as the main shareholder. At the beginning of 2022, Service Oil LLC won four tenders of Ukrgazvydobuvannia for well workovers for 2.08 billion UAH. The company was also a major contractor for DTEK Naftogaz of Rinat Akhmetov, Ukraine's largest private gas company.

### 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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