





OVERVIEW OF ENERGY SECTOR PERFORMANCE IN AUGUST 2024

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On the night of August 26, following the most massive coordinated strike on the Ukrainian energy system since the beginning of the war, primarily aimed at nuclear power plant infrastructure, units No. 1, 3, and 4 of the Rivne NPP were shut down, while the capacity of the South Ukraine NPP was forcibly reduced. In the evening of the same day, due to a disruption of standard system functions, unit No. 3 of the South Ukraine NPP was shut down. The transition to an off-design reactor control mode, which could potentially cause a level 3 incident, was prevented due to the highly professional training of operators and the symptom-based emergency response system introduced in Ukraine.

The damage caused by the Russian strikes would have been many times greater had measures not been taken to protect fuel and energy complex enterprises, namely those responsible for remedial works, as well as the availability of the primary and secondary protection levels at the facilities of power transmission and distribution installed within the pilot project on the protection of critical energy infrastructure facilities.

Despite this, the temporary loss of 1.5 GW of capacity along with abnormally hot weather that increased consumption by 1.0-1.3 GW resulted in the re-introduction of emergency and/or hourly shutdown schedules for two or three groups of consumers at least until the beginning of September and hindered the implementation of the market participants' plans to renew power exports to Romania, Hungary, and Moldova.

PREPARATION FOR THE AUTUMN AND WINTER PERIOD

There were three vectors defined to be made ready for the 2024-2025 heating season:

- ✓ major generation and distribution: «In particular, it is about repairs and reconstruction. There were funds allocated and the related equipment was imported»;
- ✓ decentralized generation for business, when «large enterprises, large govern= ment ones in particular, enter the niche of building additional generation facilities»;
- ✓ decentralized generation for the general public — «state support programs for households and condominiums to generate electricity.»

The main task of the Ukrainian government is to maintain the integrity of the energy system.

In August, according to these vectors, the Cabinet of Ministers:

- ✓ determined the list of energy products to be imported to Ukraine exempt from customs payments; initiated the construction of 700 MW highly maneuverable power plants; established an additional annual support quota for producers of renewable energy;
- ✓ allowed restrictive measures to not be applied to consumers ensuring at least 80% of their total electricity consumption is through local production;
- ✓ obliged the authorities to safeguard the generating units providing power to



institutions and organizations of the social sector;

✓ added the issue of the Joint-Stock Company «Decarbonization Fund of Ukraine» financing to the list of priority expenses; started the pilot project on the distribution of liquefied petroleum gas to meet the needs of domestic consumers.

Due to the major damage caused to energy generation by nine mass attacks, the energy companies could not use the fuel reserves intended for the off-season. Thus, coal reserves in TPP and CHP warehouses are at their maximum (2.9 million tons), and gas reserves in underground storage have increased to 6.9 billion cubic meters (+0.8 billion cubic meters excluding 4.7 billion cubic meters of «long-term storage» gas and 0.6 billion cubic meters of gas owned by non-residents).

National Joint Stock Company «Naftogaz of Ukraine» assured that «they are ready to provide the state with the required fuel resources and guarantee the timely conclusion of agreements with heat-producing companies,» even given the expected addition of up to 1 GW of new gas reciprocating and gas turbine units to the United Energy Systems of Ukraine.

Despite such optimistic statements, starting in September 2024, Naftogaz Group plans to pump at least 0.6 billion cubic meters of gas into underground storage facilities to be stored i n the «customs warehouse» regime (no VAT paid). The resource will be procured under a guarantee agreement with the European Bank for Reconstruction and Development, under which Naftogaz of Ukraine receives EUR 200 million for the provision of natural gas strategic reserves and ensuring energy security. The relevant volumes «will be used in emergencies and only for business needs,» although the procedure for the reserved resource allocation has not yet been developed. The fact that Naftogaz Group started the resource procurement at the end of July after the European gas quotations grew has also raised questions.

ENERGY BALANCE

The situation with Ukraine's energy system gradually changed for the better in the reporting period. Before the mass Russian attack

on August 26, only four days of the month were marked with consumption restrictions (in the evening). That said, shutdown schedules were introduced for no more than two groups of consumers at once, and the Slovak operator provided emergency assistance to NPC Ukrenergo only four times, with only half of the international crossing capacity used (20 GWh on August 21).

The relative balance was achieved due to the gradual decrease in daytime temperatures in most regions of Ukraine, a high level of SPP generation, and the recovery of generation and distribution facilities earlier damaged by Russian attacks, with nine NPP power units and 60-70% of thermal generation capacity to be launched by October.

On August 23–26, the standard capacity of the United Energy Systems of Ukraine was ensured by 8 NPP units generating almost 5.8 GW. One unit remained under maintenance. In the reporting month, 4–6 TPP and CHP power units, as well as HPP and HPSPP, were the source of maneuverable capacity and generated about 2.6 GW/hour.

Due to dry and hot weather, generation at the PJSC Ukrhydroenergo enterprises remained low in August and did not exceed 0.8 GW. The levels of the Dnieper and Dniester reservoirs are in line with those set in the decision regarding the establishment of the reservoir operation modes issued by the Interdepartmental Commission of the State Agency of Water Resources of Ukraine.

The generation volumes at SPPs and WPPs remained seasonally high, reaching that of the TPPs and CHPs combined.

During the reporting period, 9-10 GW of electricity was generated in Ukraine every hour (up to 18 GW in 2021).

NPP accounted for 56% of generation, RES - 17%, TPP - 11%, HPP and CHP - 8% each. Renewable sources retain their second place in the generation structure.

Energy shortages have been forecast 10 times, mostly after August 26. The emergency assistance of Slovak and Polish operators was requested nine times to balance the system. NPC Ukrenergo similarly assisted the Polish operator twice due to abnormal heat.



Due to military operations and technical issues, an average of 510 Ukrainian settlements were left without electricity (+5 compared to the previous month), and the other 63 were due to weather conditions (August 22). Almost 250 of these suffered an absence of power supply for more than one day.

There was no commercial export in August (although planned). At night and in the morning, electricity was transited from Hungary to Romania through the Ukrainian network. 1.2-1.6 GW was imported from Poland, Slovakia, Romania, and Hungary.

There was no natural gas shortage recorded. In August, its consumption was 2% higher compared to the same period the previous year, and 30% lower than August 2021. Monthly production exceeded the same of the previous year by 3%. National Joint Stock Company «Naftogaz of Ukraine» plans to increase the annual figure to 15 billion cubic meters and claims that Naftogaz Group has produced 8.6 billion cubic meters of commercial gas in seven months (which is 7% more than in the same period in 2023).

In August, an average of 30 million cubic meters of natural gas per day was pumped into underground storage (39-41 million cubic meters produced), thus the current reserve level is 18% lower than the same from 2015-2018 (including gas owned by non-residents). However, according to the Naftogaz Group management, «the rates of gas accumulation allow us to make an optimistic forecast on the plan's implementation, foremost we expect 13.2 billion cubic meters by November 1.»

In August, there was almost no daily commercial export of gas kept by non-residents in underground storage in the «customs warehouse» mode. In the «short haul» mode, an average of 4.4 million cubic meters per day was transported via the Ukrainian GTS (GMS Drozdovichi).

The gas transmission system of Ukraine operated normally. Customers of storage and capacity reservation services were nominated in full.

There are enough petroleum products on the domestic market to meet demand, which remains at the highest monthly level due to the holiday season, agricultural activity, and a significant volume of road transportation. A significant reserve of diesel fuel has been gathered. The record level of liquefied petroleum gas was procured before the expected increase in excise tax rates on oil products on September 1, 2024, which allowed the industry to avoid a shortage, which was taking shape at the beginning of August when Orlen, the Polish concern, reduced its supplies.

INDUSTRY FINANCIAL PERFORMANCE

Following certain decisions adopted by the Cabinet of Ministers of Ukraine and NEURC in May (particularly the resolution), and the reduced electricity consumption due to longterm stabilization shutdowns, the indebtedness to its producers decreased in August (to UAH 14.0 billion, down by UAH 2.0 billion compared to July). On the other hand, inproviders debtedness to of universal services is increasing (UAH 13.0 billion; up by UAH 0.2 billion), while the same for gas consumption due to heating utility companies is decreasing but still amounts to about UAH 70 billion.

The debt of NPC Ukrenergo from the «green» generation has increased to UAH 24.2 billion (although it is planned to be repaid in full by the year-end). That said, the energy market participants owe the operator almost the same amount for transmission and dispatching services provided.

In the balancing market, the debt is accumulating and growing by UAH 0.7-0.8 billion every month. This issue can be resolved by ensuring the solvency of all energy market participants — from the producer and supplier to the end consumer. Still, apart from regular decrees of the National Security and Defense Council to the Cabinet of Ministers, there is no progress here. For unknown reasons, the government is sabotaging the reduction of protected consumer lists, whose share in critical infrastructure enterprises is no more than a third.

TRANSIT

In the reporting period, the Gas Transmission System Operator of Ukraine LLC ensured daily transit of 5-6 million cubic meters of gas from Hungary to Moldova and Slovakia, as well as of 40-42 million cubic meters of Russian resources (38-39% of the volumes set in the



agreement with Gazprom LLC). About 89% of the gas was transmitted to Slovakia, 11% — to Cuciurgan Power Plant LLC in Transnistria. It was transmitted via the Sudzha GMS.

Still, according to the President of Ukraine, after December 31, 2024, «the agreement with Russia will not be extended. We've put an end to this matter. As for gas transit by other companies, if we get a request from our European colleagues (we are all in the European Union, after all), we will consider it.»

JSC Ukrtransnafta was transmitting 25-27 thousand tons of Russian oil per day to the refineries in Slovakia and Hungary (managed by MOL, a private Hungarian company). The transit was carried out via the southern branch of the Druzhba Pipeline (to Fenyeslitke and Budkovce pumping stations).

That said, raw materials from LUKOIL Oil Company PJSC were replaced by oil from other owners, primarily Tatneft PJSC. This was part of the decision on the «complete ban on the transit of resources» through Ukraine by the mentioned business entity, issued by the National Security and Defense Council (part 3, Cl. 264, Annex 2).

Since MOL did not receive 17% of Urals oil in July, Slovakia and Hungary accused Ukraine of violating part 2, Art. 276 of the EU Association Agreement where any party was prohibited from «interrupting or reducing the current transmission or transit of energy commodities» (part 2).

However, having received the conclusion of the European Commission that the sanctions imposed against PJSC LUKOIL have no impact on current oil transit operations, Hungary has stated that there are «reasonable prospects» of entering into agreements intended to solve the issue.

That said, as Mykhailo Podoliak noted: «Ukraine has been fulfilling and will fulfill its contractual obligations in full until the set date of such agreements' termination.» Thus, the adviser to the head of the Office of the President of Ukraine corrected his slip-up on the termination of the southern branch of the Druzhba Pipeline operations on January 1, 2025.

PRICE SITUATION

In July, the price index of base-load electricity (BASE) on the day-ahead market (DAM) was UAH 5,497, at its peak (PEAK) — UAH 4,739/MWh (-1.3 and -1.4% compared to July, respectively). That said, the price of the off-peak (OFFPEAK) load was UAH 6,256/MWh (-1.1%). In August, high volatility of indices was also observed (up to 100%).

The weighted average price on the intraday market (IDR) — UAH 5,903. On the DAM of the UES of Ukraine — UAH 5,739/MWh (+3.1 and -3.8% compared to July, respectively).

The suspended index growth in August limited electricity import from Eastern European countries, as base and peak prices on their intraday markets were 30-65% higher than in Ukraine.

In August, the weighted average price of the September natural gas resource increased to UAH 13,767 per thousand cubic meters (+6.0% compared to July) following the electronic exchange trading on the Ukrainian Energy Exchange, as anticipated. The price of natural gas at TTF when delivered to the domestic border increased to UAH 25,935 per thousand cubic meters (+19.4% compared to July; VAT incl.).

From September 1, 2024, the National Joint Stock Company «Naftogaz of Ukraine» raised its gas tariffs for commercial consumers to UAH 18,200 per thousand cubic meters (in August, they amounted to UAH 16,140, VAT incl.). Prices for domestic consumers and heating utility companies were once again fixed at UAH 7,960 per thousand cubic meters (until April 30, 2025).

18 EU member states have continued replenishing their underground storage facilities. Therefore, in August, the record level of their reserves (+13% to the average for the previous five years) increased to 99.2 billion cubic meters (+9.3% in a month). Despite the significant increase in spot prices at the TTF hub, which during the month varied within the USD 415-480/thousand cubic meters range, gas was pumped into storage facilities, which were already 92% full (more than 100% in three countries).



Such growth was caused by high competition for liquefied gas with Asian markets, repair work at US LNG terminals, the start of the extensive scheduled repair works on the Norwegian gas infrastructure, as well as military risks caused by the seizure of the Sudzha GMS by the Armed Forces of Ukraine.

In August, coal (API2) CIF ARA (ARGUS-McCloskey) futures quoted prices increased by an average of 15% and were within the USD 120-123/t range. The same quoted prices were USD 119/t the year before. Coal reserves in ARA terminal warehouses (Amsterdam — Rotterdam — Antwerp) decreased to 4.7 million tons (-4% compared to July; and -25% compared to the annual average).

In August, quoted prices on Brent crude oil futures continued to fall as traders were disappointed by continuously increased production on the part of OPEC+ member states in Q3 and Q4 2024. As a result, on August 21, 2024, the four-month low was updated (USD 76/barrel; on May 8, 2024 – USD 77/barrel).

Given the lower-than-expected volumes of oil consumption, a September increase in quoted prices is unlikely. This assumption was confirmed by Goldman Sachs and Morgan Stanley. If the current trends are maintained through 2024, the supply of raw materials will amount to 103.2 million barrels per day, while demand will increase to 103.1 million barrels. Thus, prices for futures with near-term delivery dates are lower than quoted prices for more distant deliveries.

The cost of gasoline and diesel fuel in Ukraine hardly changed as yet another decrease in wholesale prices at the border was again compensated by the hryvnia cheapening on the interbank market (-3% to euro). As of August 31, 2024, indicative prices for A-95 Euro5 and DP-L Euro5 gasket types were UAH 60.24 and UAH 52.85/liter, respectively.

Since the bill approved by the Verkhovna Rada back on July 18, 2024 was only signed by the President on September 1, 2024, gas station owners failed to react to it by timely increasing prices of gasoline and diesel fuel by UAH 2.00-2.50/l.

Consumers of liquefied petroleum gas will face even more problems, as its indicative price

has already risen to UAH 28.87/I in August (+3.2% compared to the previous month). Unlike other types of petroleum products, the supply of propane-butane will decrease in the fall, which given the increase in the excise tax rate by 185% (from EUR 52 to EUR 148 per 1,000 liters), may result in related retail prices being higher than previously anticipated ones (UAH 5.20 - 5.30/I). In September, the price ratio of liquefied petroleum gas and highoctane fuel will increase to 60% at most gas stations. This will worsen the financial situation of economic entities that use propanebutane as fuel for small commercial vehicles, reducing purchasing power and making the installation of CNG equipment on vehicles unprofitable.

CHANGES IN REGULATORY FRAMEWORK

The President of Ukraine signed the law on the gradual increase in excise tax rates (in 2024-2028), in particular on fuel, which was meant to meet the requirements of Directive 2003/96/EU (Annex XXVIII, Article 353 of the Association Agreement between the EU and Ukraine). However, taxes only for unleaded gasoline and diesel fuel (EUR 359 and EUR 330 per 1,000 liters, respectively) were harmonized, while the excise duty for liquefied petroleum gas was set at EUR 250 per 1,000 liters (EUR 417 per 1,000 kg), which was 3.3 times higher than the current minimum rate in the EU (EUR 125 per 1,000 kg).

This law was adopted in violation of:

- ✓ part 3, Art. 27 of the Budget Code of Ukraine in parts of compliance with the implementation terms set for regulatory instruments affecting budget indicators;
- ✓ cl. 2, part 1 and part 3, Art. 91 of the Regulations of the Verkhovna Rada of Ukraine and part 1, Art. 27 of the Budget Code of Ukraine in parts of mandatory explanation of the expected consequences of the law application, as well as its financial and economic justification (including related calculations).

The ratio between excise duty rates on gasoline and liquefied gas (359/250) set in the law resulted in higher taxes on less environmentally harmful fuels than the same in the EU, which contradicts the purpose of Directive 2003/96/EU. The incomplete



compliance of the document with the EU acquis is confirmed by the conclusion of the Committee on Ukraine's EU Integration.

The Verkhovna Rada of Ukraine adopted in the second reading and as a whole:

- ✓ Bill on clarifying the powers of state authorities in the field of critical infrastructure protection No. 10409 dated January 15, 2024, intended to resolve the legal conflict between the Law of Ukraine «On Critical Infrastructure» and the Code of Civil Protection of Ukraine, in parts defining the powers of subjects of national systems of civil protection and critical infrastructure protection. However, the current contradictions have been resolved only partially, confirmed by the opinion issued by the Central Scientific Experts Office of the Verkhovna Rada of Ukraine:
- ✓ Bill on the settlement of certain issues of the terminology used for «smart networks» implementation, sustainability criteria, response to demand, and its management No. 11083 dated April 13, 2024. That said, the final text of the law signed by the Chairman of the Verkhovna Rada contains regulatory provisions not related to terminology issues. It mainly concerns the authority granted to the Gas Transmission System Operator of Ukraine LLC to apply special modes of gas pipeline operation, including a simplified procedure to put pipelines on idle, to optimize their peak capacity, to allocate funds NPC Ukrenergo received from the distribution of interstate crossing capacity in 2024, and to repay indebtedness on the balancing market (50%) and to SE Guaranteed Buyer (50%).

Cabinet of Ministers of Ukraine:

✓ published the approved Strategy for the Development of Distributed Generation until 2035 and the action plan for its implementation in 2024-2026, which stipulates three priorities to ensure continuous power supply to consumers in the short- and medium-term — recovery of damaged generating capacities with simultaneous strengthening their antiaircraft protection; installing backup

- sources of power supply on critical infrastructure facilities; construction and commissioning new generating capacities in short term distributed generation;
- ✓ approved the bill on the ratification of the Grant Agreement between Ukraine and France on promoting the recovery and support of critical infrastructure and priority sectors of the Ukrainian economy, which stipulates the attraction of EUR 200 million in grant funds from the French government for the reconstruction and recovery of Ukrainian critical infrastructure, of which EUR 60 million is to be allocated to support the energy sector;
- ✓ allowed restrictive measures to not be applied for consumers ensuring at least 80% of their total electricity consumption through local production;
- ✓ supplemented the list of goods to be imported into the customs territory of Ukraine exempt from customs payments, with goods that are temporarily exempted from value-added tax and import duty payment (hydraulic turbines, electric and wind energy generators, inverters, photovoltaic elements assembled in modules or mounted in a panel, components to produce transformers, etc., as well as goods regulated under import lists in line with agreements financed by the Energy Community Secretariat), for the period of martial law, but no longer than January 1, 2026;
- made the ministries, other central executive authorities, regional and Kyiv City State Administrations (Military Administrations) ensure the installation of generating units to produce power from solar radiation, as well as electric energy storage units to meet the consumption demand in public and administrative buildings, healthcare and educational institutions, and organizations and bodies of public social protection, etc. until December 31, 2025;
- ✓ supplemented the list of priority expenses set in Cl. 19 of the Procedure for the exercise of powers by the State Treasury Service in a special regime under martial law, with the issue of financing the



Joint-Stock Company «Decarbonization Fund of Ukraine» in the areas determined by the Procedure for using the funds of the State Fund for Decarbonization and Energy Efficient Transformation;

- ✓ launched the pilot project on the humanitarian aid distribution delivered in the form of liquefied petroleum gas to meet the needs of domestic consumers in the Donetsk, Sumy, Kharkiv, and Kherson oblasts. The aid amount will be calculated in line with the needs determined by the regional military administrations and provided at the expense of a grant from Saudi Arabia and donors, in particular, PJSC Ukrnafta and JSC UkrGasVydobuvannya Receipt, provision, distribution, and control over the targeted aid use will be carried out on a declarative basis:
- ✓ approved the conditions and established a commission to hold a tender for the construction of 700 MW highly maneuverable power plants with 5-80 MW capacity and the option of rapid start/ stop to ensure the availability of a guaranteed secondary regulation backup (frequency restoration reserve) within the United Energy Systems of Ukraine by December 31, 2027;
- ✓ approved the National Renewable Energy Action Plan until 2030 and the action plan for its implementation, which determined that by 2030, the share of renewable energy in the structure of gross final energy consumption in Ukraine should be at least 27%. Specifically in heating and cooling supply systems 33%; in power generation 29%; and in the transport sector 17%;
- established an additional annual support quota for renewable energy producers in the amount of 110 MW, and distributed it between solar, wind, and other power plants (biomass, biogas, small HPPs) with a 11:88:11 ratio. Pilot auctions for the distribution of the quota are scheduled for October-November 2024;
- ✓ extended the special duties assigned to the Naftogaz Group to ensure the general public interest in the process of the natural gas market operations until April 30, 2025;

- extended the term of preferential supply of natural gas to heating energy producers to April 30, 2025;
- ✓ allocated UAH 264 million and UAH 209 million to the Lviv and Ivano-Frankivsk Regional State Administrations, respectively, to implement measures to restore the sustainable provision of heating services to the general public.

No public sources contain confirmation or refutation of the approval of the draft government resolution published by the Ministry of Energy on January 18, 2024, which restores the ban on oil products circulation if they do not meet the Euro5 environmental standards but which were allowed from March 17, 2022, in particular «to be supplied to the Armed Forces and other military units.»

The Ministry of Strategic Industries included SE «NNEGC «Energoatom» in the list of enterprises-debtors under court enforcement actions, which execution was suspended during martial law. Some market participants believe that this decision's adoption will allow the company «to not settle with its counterparts under contractor agreements.»

NEURC:

- ✓ allowed NPC Ukrenergo to finance the installation of the first level of engineering protection on critical infrastructure and transmission system facilities at the expense of its investment and repair programs;
- ✓ redistributed UAH 6.99 billion of the planned expenses of NPC Ukrenergo to procure auxiliary services for the system restrictions adjustment;
- ✓ made the providers of universal services and the transmission system operators join the Register of Guarantees of Origin for Electricity Generated From Renewable Sources and add their generating facilities and accounting units into it by October 1, 2024; approved the related application forms and developed guidelines on how to fill out accounts:
- ✓ extended the first regulatory period for assets of distribution system operators and providers of universal services up



to 5 years; kept zero level of efficiency indicators and limitations on assets depreciation for 2025; established special standards for depreciation accounting and the regulatory asset base in the front-line territories;

- ✓ simplified the procedure on temporarily joining the electric distribution systems of facilities and installations intended for power production during martial law;
- ✓ increased the duration of the test operation mode for digital platforms, where no penalties are applied to participants of the wholesale energy market who should disclose insider information there 60 days during martial law and 30 days after its termination or cancellation;
- ✓ set a unified approach to calculating fines and avoiding their misinterpretation, in particular in terms of determining the fine initial amount and its adjustment given mitigating and/or aggravating circumstances:
- ✓ elaborated on the conditions when power production activity is subject to licensing, clarified the organizational requirements for the licensees' activities on the wholesale energy market, and also brought the current licensing conditions in line with the requirements of the Law of Ukraine «On Administrative Procedure.»

Under the ruling of the Sixth Court of Appeal in case No. 2a-7778/09/2670, the State Service of Geology restored the special permit for the Sakhalin gas field subsoil use granted to PJSC Ukrnaftoburinnya Mining Company, which is under the management of PJSC Ukrnafta by the government's decision.

Following the first special auction on the purchase of frequency containment reserve for 5 years held under the resolution of the NEURC NPC Ukrenergo, it procured 99 MW of capacity, which is compliant with the requirements determined for the said type of reserves. Following the second auction, 240 and 260 MW of reserves for loading and loading-unloading services in every hour were purchased (41 and 62% of the auctioned needs). As the prices of the concluded agreements are similar to the economically justified ones,

we hope that the related projects will be implemented within the set terms. The third special auction is scheduled for October.

PROJECTS AND INTENTIONS

The Verkhovna Rada of Ukraine adopted a revised bill (No. 11301-d dated July 18, 2024), based on the government version (No. 11301 dated May 27, 2024) intended to improve payment discipline in the energy market by opening current accounts for participants with a special usage mode, introduction of a relevant algorithm for the funds distribution from these accounts, and increased responsibility for unauthorized energy take-off.

NEURC published the following projects:

- ✓ resolutions making energy suppliers and distribution system operators establish Centers for the Electricity Consumers Protection within their structure and ensure transparent results of consumer complaints' consideration;
- ✓ resolutions clarifying the payment terms under the «green tariff,» considering system restrictions when calculating the marginal price of balancing energy, allowing advance payments for electricity sellers using the market premium mechanism, and including mutual liabilities of a kind;
- ✓ resolutions harmonizing the Procedure for Allocating the Capacity of Interstate Crossings with the Harmonization Allocation Rules, in particular unifying the auction platform algorithms for various interstate crossings;
- ✓ resolutions extending the effect of the Procedure for Registration of Wholesale Energy Market Participants to persons conducting transactions with wholesale energy products under a joint activity agreement or a simple partnership agreement given the non-availability of a separate legal entity;
- ✓ resolutions reducing the number of reporting indicators for heating supply companies by 37%;
- ✓ resolutions setting the obligation to remove from regulatory accounting the assets of the energy market participants



if located in Russian-occupied territories and/or territories where government control has been lost as a result of Russian military aggression; adjusting controllable operating costs and certain items of uncontrollable costs for operators acting under the methodology of incentive tariff formation, as well as separate items of operating costs for operators acting under the «costs +» methodology and front-line providers of universal services:

- ✓ resolutions regulating the acquisition of the active consumer status by an apartment buildingco-owners association, the possibility of selling surplus energy produced by such consumers, the procedure for entering into and executing relevant agreements;
- ✓ resolutions setting the payment for daily negative imbalances for the previous and current gas months in cash and/or via transfer of funds to an escrow account, and specifying the methodology to calculate the balancing neutrality fee on the natural gas market in force from October 1, 2024;
- ✓ resolutions containing a provisional list of insider information by type of activity and allowing wholesale energy market participants to delegate its disclosure (publication) to third parties;
- ✓ resolutions setting the licensing to conduct economic activities for the transportation, storage, and distribution of natural gas; for the transportation of oil and petroleum products through the main pipeline; for thermal energy production and transmission; for energy production, transmission, and distribution; requirements for licensees on the approval of safety certificates for critical infrastructure facilities under the authorized procedure.

INTERNATIONAL COOPERATION

Following the first thematic extended meeting of the working group dedicated to the implementation of the «Energy Security» item within the Peace Formula, a joint communiqué was adopted, which most notably stated the following:

- ✓ international aid is crucial for protecting Ukrainian energy infrastructure from military threats, in particular by improving air defenses:
- ✓ Participants will make efforts to restore civil energy infrastructure and promote its rapid recovery to ensure power and heating supply and the development of a modern, innovative, secure, decentralized, and more environmentally friendly energy system that will meet the Net Zero objective in the future.
- √ the Ministry of Economy launched an information panel to monitor cooperation within the Ukraine Facility Plan implementation.

The arbitral tribunal in Paris ruled to consider the claims filed by NPC Ukrenergo against the Russian Federation on Crimean assets and investments illegally seized by the latter.

GENERAL CONCLUSIONS AND RECOMMENDATIONS

The analysis of the largest attack on the energy infrastructure of Ukraine since October 2022, which took place on August 26, 2024, proves the new tactics adopted by the Russian armed forces. In the spring of 2024, they tried to disable the power units of thermal and hydroelectric power plants, while in August, their target was the infrastructure of nuclear power generation. Unlike their previous attempts, this time the cruise missiles used to achieve the said goal were equipped with cluster warheads.

The new tactic proved partially successful. Although most of the facilities under attack had second-level physical protection installed, which reduced the general damage caused, it could not protect against minor damage from submunitions. Moreover, the recovery of the damaged facilities was significantly slowed down by the need to deactivate a large number of cluster warheads.

The August 26 attack confirms that the military and political leadership of the Russian Federation has not forgotten the idea of disabling the Ukrainian energy industry. Thus, attacks on the infrastructure of nuclear power generation, which ensures the entire energy system's



integrity, are likely to be repeated. That said, the Russian Federation will not formally violate Part 1 Art. 56 of Protocol I to the Geneva Conventions concerning the protection of civilian war victims, given that it is not attacking the nuclear power plants themselves but rather the transmission infrastructure.

Meanwhile, fast transient processes occurring as a result of multiple failures of switching equipment and/or transformer yards may bring nuclear reactors to extra-heavy modes. In August, the second and third-level incidents (under the INES scale) at the Rivne and South Ukraine NPPs were prevented due to the highly professional training of operators and the symptom-based emergency response system introduced in Ukraine.

To preserve the integrity of the United Energy Systems of Ukraine, we should promptly:

- ✓ install new and update existing physical protection at transmission and distribution facilities, given the enemy's use of air-launched cruise missiles with cluster warheads:
- ✓ gather and keep distributed stocks of the most vulnerable equipment (unit and auto-type transformers, distribution devices, switching equipment, etc.) at transmission and distribution facilities:
- ensure major downpowering at the NPPs immediately after notifications from the Air Force of cruise missiles in Ukrainian airspace.

The following is also considered a priority:

✓ guaranteed multi-level protection of energy infrastructure facilities, especially those with ongoing or future recovery works, by means of anti-missile and antiaircraft defense, primarily by automated systems of search, detection, recognition, and fire damage to air targets;

- preserving the integrity of the United Energy Systems of Ukraine due to the development of reserve networks, namely interstate ones, as well as autonomous networks and systems, establishing and maintaining distribution and generation reserves: TPPs and CHPs of low capacity to cover the needs of industrial enterprises mostly in the eastern and central regions of Ukraine; small HPPs in the western regions; gas reciprocating and gas turbine units at CHPs, in particular within the Naftogaz Group structure;
- ✓ renew operations of all energy facilities, especially TPPs and CHPs of low capacity, which were ceased due to inefficiency, lack of fuel, court rulings, etc., with these being connected to distribution systems upon military administrations' requests;
- ✓ diversifying the energy supply structure given unbalanced consumption schedules (including duck curve); promoting the establishment of energy cooperatives;
- ✓ guaranteed ongoing supply of energy resources across the western border of Ukraine sufficient for consumers, namely to areas with damaged infrastructure, including by increasing the transmission capacitance of the United Energy Systems of Ukraine in the west-east and west-south directions, improving traffic capacity of railway and road checkpoints on the western border, and setting «green corridors» for energy equipment and petroleum products;
- ✓ developing and approving action plans to guarantee the safety and stability of critical infrastructure ensuring the livelihood of territorial communities in view of measures taken to protect such facilities from external threats; and ensuring autonomous power supply for critical infrastructure facilities performing vital functions in territorial communities.