Energy Community

UKRAINE ENERGY MARKET OBSERVATORY
16/2024

Enhancing imports of electricity from the European Union to Ukraine

by the Energy Community Secretariat

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PURPOSE STATEMENT

Review of the regulatory framework that determines conditions for electricity imports from the European Union (EU) to Ukraine, identify barriers to electricity imports and provide recommendations for increasing electricity imports ahead of the winter season.

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Energy Community Secretariat

Am Hof 4, 1010 Vienna, Austria
Tel: + 431 535 2222
Fax: + 431 535 2222 11
Web: www.energy-community.org
Twitter: https://twitter.com/ener_community
LinkedIn: https://www.linkedin.com/company/energy-community/

Ukraine Energy Market Observatory

Assessment 16/24

Enhancing imports of electricity from the European Union to Ukraine

Background

The electricity system of Ukraine has been operating under critical conditions since the outbreak of the Russia's full-scale invasion on Ukraine. Being directly targeted by Russian missile and drone attacks, the Ukrainian electricity system has lost around 9 GW of available capacity during 2022-2023[1], with some power plants completely destroyed by Russian attacks, severely damaged or occupied (including the biggest nuclear power plant in Europe located in Zaporizhzhia) by Russian forces. In the spring of 2024, the intensity of Russian attacks on the electricity system picked up with even more damage, resulting in a significant loss of thermal generation. Hydro and other renewable energy sources (RES) plants were also destroyed or damaged. This caused severe capacity deficits and network bottlenecks, leading to widespread outages and load-shedding throughout Ukraine, even during the summer. Electricity generation and consumption in Ukraine have dropped by over 30% from 2021 levels.

Consequently, formerly an export-oriented power system with installed capacity significantly larger than peak demand, Ukraine currently relies heavily on electricity imports from the EU to ensure system balance and to decrease electricity shortages resulting in load-shedding and limited supply to consumers.

Synchronisation with the Continental European power system in March 2022 made the Ukrainian and Moldovan systems more stable. It was accompanied by gradually increased available capacity for electricity trading between the EU and Ukraine. It also allowed for balancing the power systems of Ukraine and Moldova and emergency supply to both electricity systems in times of severe shortages. Electricity imports from the EU supported supply to Ukrainian consumers during the winter of 2023-2024 and contributed to the electricity system balance and its stability.

[1] https://www.nerc.gov.ua/storage/app/sites/1/Docs/Byuleten_do_richnogo_zvitu/broshura_do_richnogo_zvitu_nkrekp-2023.pdf

Ahead of the upcoming winter season of 2024-2025, the measures to secure adequate supply of electricity are under intensive preparation and implementation. One of the key measures is reconstruction of the generation and transmission capacities damaged by Russian attacks and building the new generation capacities in Ukraine. This is the focus of the Ukraine Energy Support Fund, which was established in agreement with the European Commission and the Ministry of Energy of Ukraine and is managed by the Energy Community Secretariat. Its aim is to enable governments, international financial institutions and international organizations as well as corporate donors to provide financial support to the Ukrainian energy sector's efforts to repair that damage and keep functioning[2]. The Fund's 2024/2025 winterization efforts include 220 MW of newly installed distributed generation capacities and almost 2 GW of repairs of damaged or destroyed installed generation capacities, including repairs of damaged renewable capacities[3]. The Fund is the fastest and most efficient way to translate monetary assistance into equipment delivered on the ground. Pledges amount to EUR 758mil (08.10.2024), all of which is already allocated for specific projects and purposes, including dedicated winterization efforts, a proof of flexibility and efficiency of the Fund's operation.

According to the IEA report[4] the uncovered deficit (by national generation and import) in the winter period could be up to 6 GW. The current generating capacities and cross-border import capacities are insufficient to meet the expected electricity demand for autumn-winter 2024/2025, putting consumers and critical infrastructure at risk. In such a situation each additional MW is of great importance for maintaining stability and balance of the Ukrainian electricity system, and for reducing undelivered electricity to the consumers or the number of hours with load-shedding measures.

Increasing the electricity imports from the EU to Ukraine remains critical that can alleviate electricity supply deficits in Ukraine. The present assessment identifies the technical and regulatory improvements needed to enable the effective utilization and increase of the electricity import capacities to Ukraine.

Role of electricity imports in securing continuous supply to electricity consumers in Ukraine

The currently available cross-border transmission capacity for electricity imports from the EU is not sufficient to cover forecasted deficit. Without increasing domestic electricity production and/ or electricity imports, it is predicted that Ukrainian consumers may experience more than 5 hours/ per day of power supply interruptions in the next winter[5], depending on the temperatures. Import of electricity from the EU is one of the crucial factors for ensuring more hours of electricity supply to Ukrainian customers.

Figure 1 illustrates the development of cross-border capacity (in MW) for electricity imports and exports between the EU and the Load-Frequency Control Block of Ukraine and Moldova (LFC UAMD), based on the approved capacity for commercial exchanges from Continental Europe (CE) to Ukraine and Moldova, by ENTSO-E.

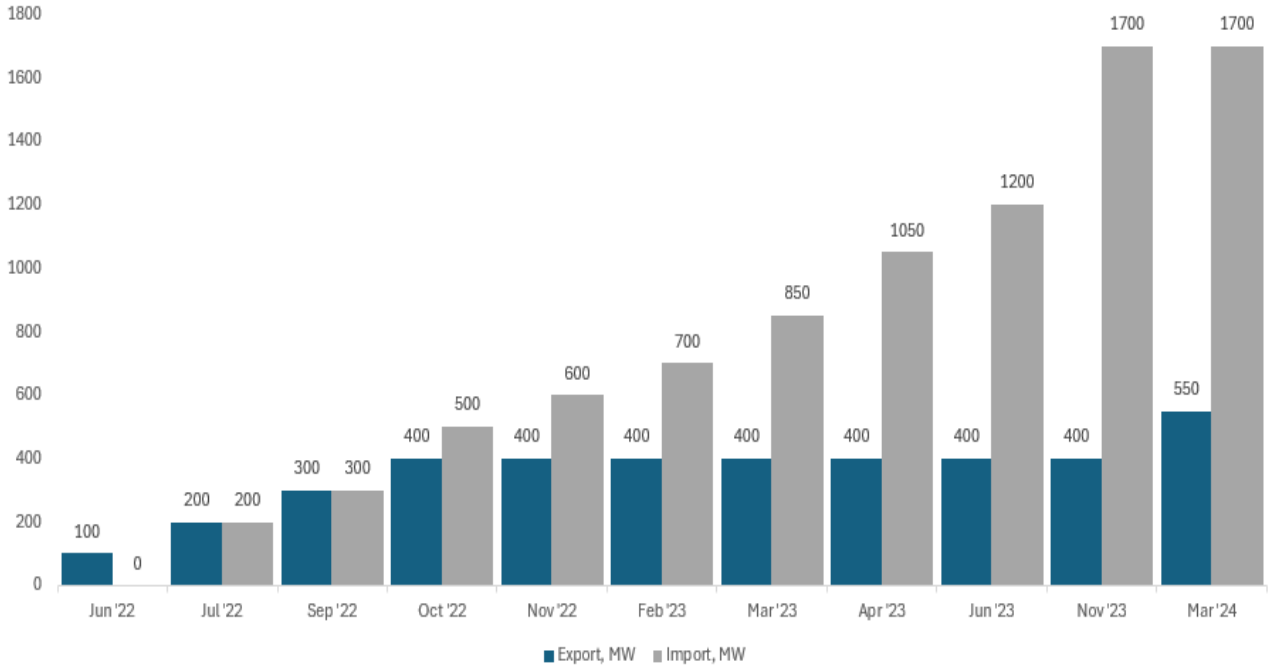
[2] More details at https://www.energy-community.org/Ukraine/Fund.html
[3] Values are rounded and descriptions generalized to avoid any identification of assets due to ongoing Russian aggression.
[4] Ukraine's Energy Security and the coming winter: An energy action plan for Ukraine and its partners, 2024 https://iea.blob.core.windows.net/assets/cec49dc2-7d04-442f-92aa-54c18e6f51d6/UkrainesEnergySecurityandtheComingWinter.pdf
[5] https://ubn.news/opinions-of-ukrainian-energy-experts-differ-on-the-duration-of-winter-blackouts/

Since the emergency synchronisation in March 2022, ENTSO-E was progressively increasing the import/export capacity limit to/from Ukraine and Moldova based on:

- Steady-state security calculations (N-1 criterion);
- Dynamic stability calculations;
- A reliability margin (TRM) of 250 MW to take into account uncertainties which appear because physical flows can deviate from the scheduled flows.

In November 2023, the synchronisation project with Ukrenergo, the transmission system operator in Ukraine, was completed and ENTSO-E decided to increase the capacity for import to 1700 MW as the maximum import capacity that can be offered while respecting the system security limits. This capacity is available for commercial parties permanently, while Ukrenergo can request an additional 250 MW for emergency imports (so that a total of 1950 MW can be available exceptionally). On the other hand, export capacity from Ukraine and Moldova to Continental Europe has been capped to 550 MW from March 2024 onwards.

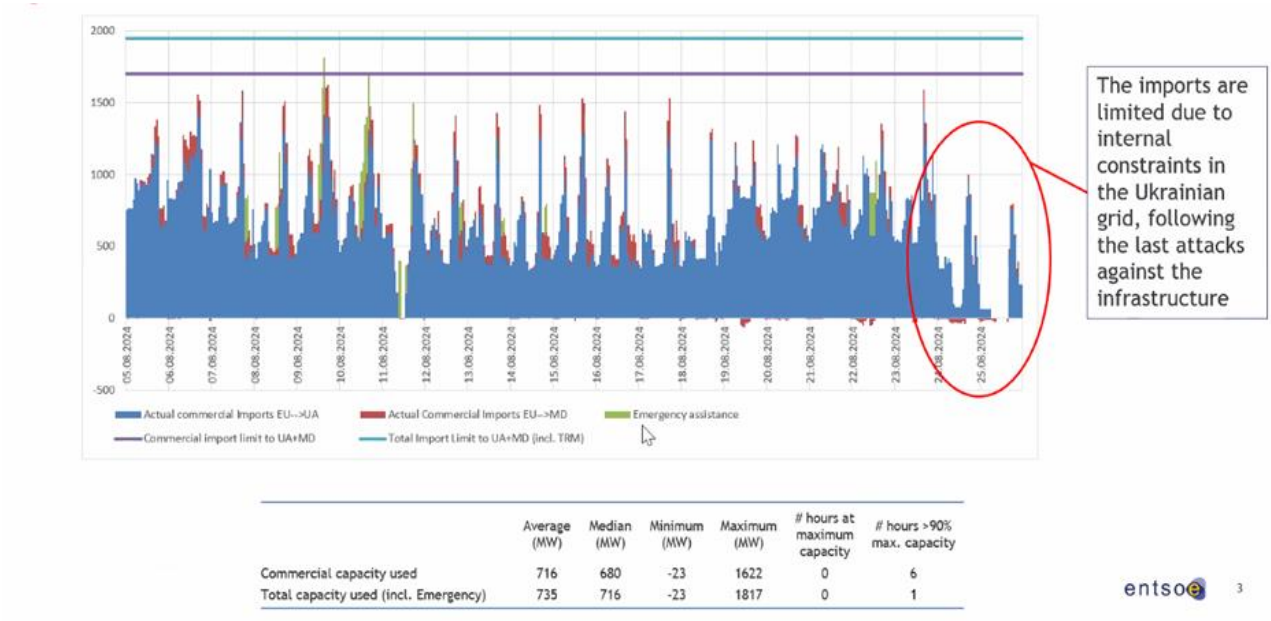
Figure 1. Development of the approved cross-border capacity (in MW) for electricity imports and exports between the EU and Ukraine and Moldova



Source: ENTSO-E

These available cross-border capacities have resulted in electricity flows between the EU and Ukraine as illustrated in the following graphs for two periods of time (August 2024 and the last three weeks before 6 October 2024, when this report was prepared). Electricity flows reversed from net exports from Ukraine to the EU to net imports to Ukraine, reflecting war-caused electricity deficits in the Ukrainian electricity system. The situation was particularly problematic during August 2024 when Ukraine had to import electricity constantly. The supply situation somewhat improved at the beginning of October 2024 when Ukraine even occasionally exported to CE electricity that could not be consumed domestically.

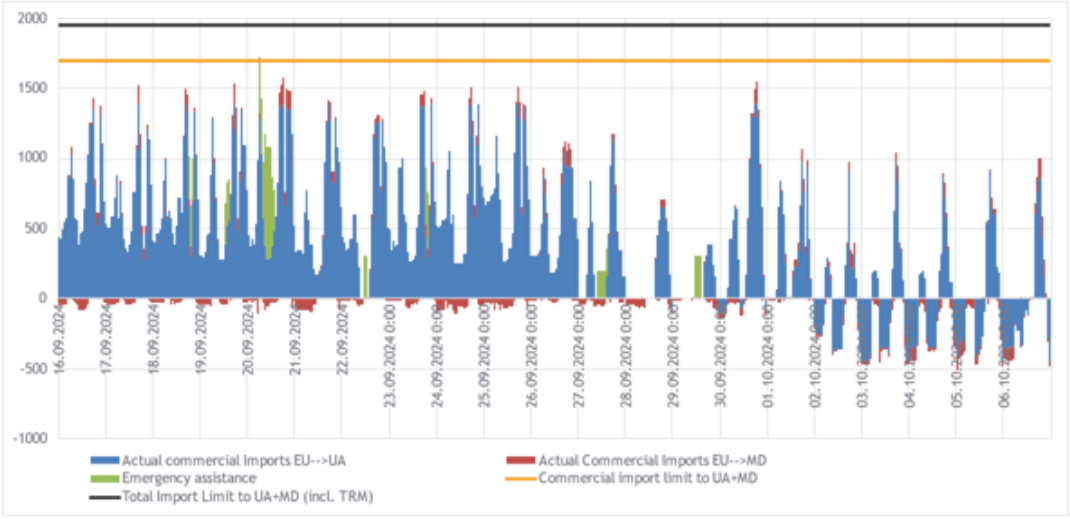
Figure 2. Actual utilization of cross-border capacities between the EU and Ukraine and Moldova in August 2024



	Average (MW)	Median (MW)	Minimum (MW)	Maximum (MW)	# hours at maximum capacity	# hours >90% max. capacity
Commercial capacity used	716	680	-23	1622	0	6
Total capacity used (incl. Emergency)	735	716	-23	1817	0	1

Source: ENTSO-E

Figure 3. Actual utilization of cross-border capacities between the EU and Ukraine and Moldova in the last three weeks before 6 October 2024



	Average (MW)	Median (MW)	Minimum (MW)	Maximum (MW)	# hours at maximum capacity	# hours >90% max. capacity
Commercial capacity used	403	368	-510	1577	0	3
Total capacity used (incl. Emergency)	423	388	-510	1717	0	0

Source: ENTSO-E

The figures above show that the additional emergency capacity margin of 250 MW (above the permanently available 1700 MW) was used only once in August and once in September, but not to the full extent.

Considering that a large portion of Ukrainian generation capacity cannot produce electricity under the current circumstances and that electricity consumption will rise significantly over the winter months, increasing the electricity import capacity from the EU further is of great importance for ensuring the stability and balance of the Ukrainian electricity system in the upcoming winter season.

Technical preconditions to increase electricity import capacity to Ukraine

ENTSO-E Regional Group Continental Europe (RG CE) is currently revising the cross-border capacity limit of 1700 MW for electricity trade from Continental Europe to Ukraine and Moldova. ENTSO-E has established the Experts Task Force (TF) to explore new options to increase the import capacity of the LFC UAMD. This group has been regularly meeting since June 2024 and is expected to make a proposal to the RG CE in November 2024. On 24 September 2024, RG CE acknowledged the progress of the TF and mandated the TF to decide on the revision of the current cap on import capacity. The revision process is still ongoing at the time of finalising this analysis (8 October 2024). The final conclusion is expected to be made at the end of October or in early November 2024.

The Expert TF considers possible remedial actions in the case of N-1 operating conditions and critical contingencies (observing single outages in the grid). They consider two possible solutions, either automatization of the capacity calculations or an updated manual capacity calculation, as a back-up solution.

Ultimately, ENTSO-E considers that the development of new grid infrastructure is the only way to significantly increase the exchange capacity. The ongoing reinforcement in the transmission network in Moldova with the expected commissioning of the 400 kV line Vulcanesti – Chisinau in 2025 could be helpful, but additional interconnectors between Ukraine/Moldova and the neighbouring countries will allow much higher cross-border capacities between CE and UAMD. The identified interconnection lines are:

- OHL 400 kV Balti (Moldova) – Succeava (Romania), planned to be commissioned in 2028;
- Rehabilitation of the OHL 400 kV Mukachevo (Ukraine) – Velke Kapusany (Slovakia), with unknown commissioning date (currently assessed in the TYNDP 2024 prepared by ENTSO-E);
- Reconstruction of the 400 kV line Pivdennoukrainska NPP (Ukraine) – Issacea (Romania), with unknown commissioning date (currently assessed in the TYNDP 2024 prepared by ENTSO-E);

Since such interconnection projects may take time to be commissioned, shorter time-frame solutions have been identified such as upgrade of transformers that are identified as the limiting factor for the import capacity in some network configurations as well as installation of phase-shift transformers to better control the power flows in the regional system and limit the loop flows.

By contrast, the usage of the 220 kV interconnection line Dobrotvirska TPP (Ukraine) – Zamosc (Poland) in an island mode of operation supplying certain demand in Ukraine radially from Poland may be limited due to weaknesses in the Polish network 220 kV in the relevant area around the substation Zamosc, as declared by the Polish TSO (PSE).

Regulatory and fiscal measures affecting conditions for electricity import to Ukraine

The electricity market in Ukraine was liberalised in 2019 following the transposition of the Third Energy Package. All market segments[6] were introduced at once and continue operating even under war conditions. However, from the very beginning, the market was constrained by several regulatory interventions. Most importantly, the National Energy and Utilities Regulatory Commission (NEURC), sets caps on electricity market prices impacting the competition and liquidity in the market and the Cabinet of Ministers of Ukraine imposes public service obligation affecting the economic activities of some market participants, e.g., state owned producers, suppliers. Being an electricity export-oriented country in the pre-war period, importing electricity was not in the policy focus in Ukraine. Moreover, some legal provisions protected the national electricity market from imports in the past and continue to be applied.

The following section identifies specific regulatory and fiscal measures in Ukraine and certain neighbouring countries that negatively affect electricity market participants when importing electricity to Ukraine. Addressing these national and regional constraints expediently would support higher electricity import from the EU, especially during the upcoming winter season. The regulatory and technical improvements are addressed and recommended within the existing ENTSO-E framework, including the ongoing revisions.

Market conditions for import of electricity in Ukraine

The organised market segments from the very beginning are functioning in Ukraine with certain restrictions in the form of price limits. The amended Electricity Market Law[7] empowers NEURC to set minimal/maximum price limits for the DAM, IDM and BM in case of significant price fluctuations, based on a predefined methodology and with appropriate justification. NEURC approved the Methodology for determining significant price fluctuations and for setting limit prices on the day-ahead market, intraday market and balancing market (hereinafter, the Methodology[8]) in 2022.

However, as assessed previously by the Secretariat[9], the Methodology does not define a sound basis for setting/adjusting price caps, but rather compiles the proposals of the Market Operator, the Settlements Administrator (i.e. - Ukrenergo), and the Ministry of Energy. It does not allow for automatic adjustments of the price caps based on clearly defined criteria, data, and calculation parameters related to price fluctuations. This makes the electricity market price development unpredictable for market participants, especially for importers.

[6] Day-Ahead Market (DAM), Intraday Market (IDM), Balancing Market (BM), Ancillary services market (AS M), bilateral market

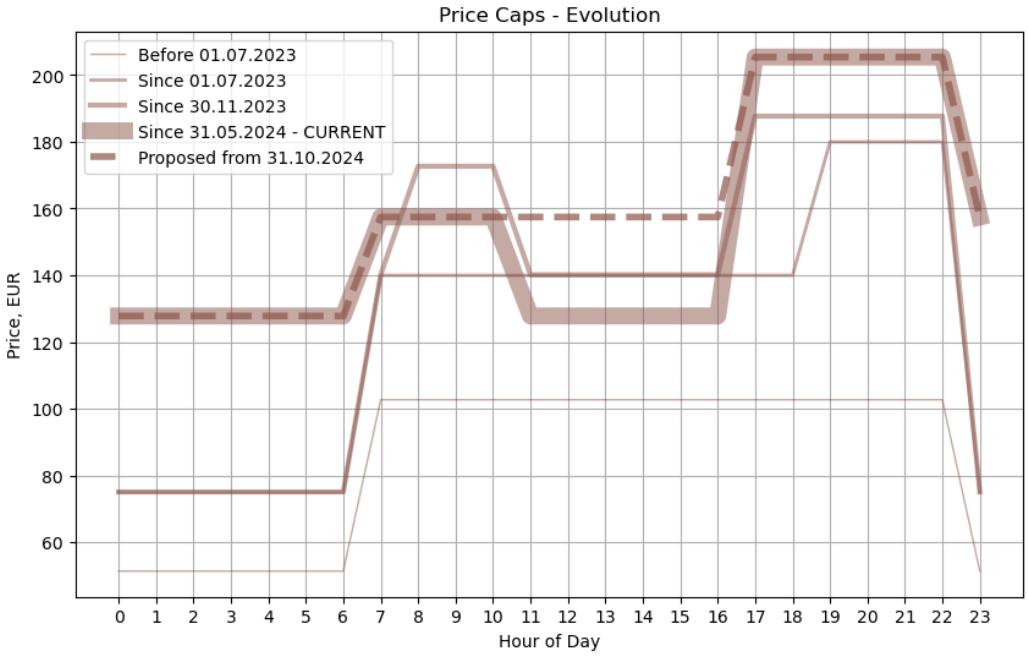
[7] https://zakon.rada.gov.ua/laws/show/2019-19/ed20240918#Text

[8] https://zakon.rada.gov.ua/rada/show/v1221874-22#Text

[9] Also reflected in Ukraine Energy Market Observatory 13/2023

The practical application of the Methodology shows its unpredictability and lack of transparency. Since the adoption of the Methodology, NEURC has reviewed the price caps several times, changing the level of maximum/minimum prices and their granularity during the day, without proper justifications. Although the price caps tend to increase after each review, as illustrated in Figure 4, the process of regulatory decisions making still lacks transparency and predictability.

Figure 4. Overview of evolution of maximum price caps in the day ahead electricity market of Ukraine[10]



Source: NEURC

As current price caps in Ukraine are differentiated according to the period of the day, they tend to restrict market price formation in some periods. Maximum price caps for the day-ahead, intraday and balancing market segments are significantly lower than the harmonized limits on maximum clearing prices - the technical bidding limits - applied in the EU[11]. The approach applied in Ukraine is effectively market price "regulation" rather than technical bidding limits that do not restrict trade and are consistent with the EU practice. Therefore, importing electricity in some periods is not economically viable.

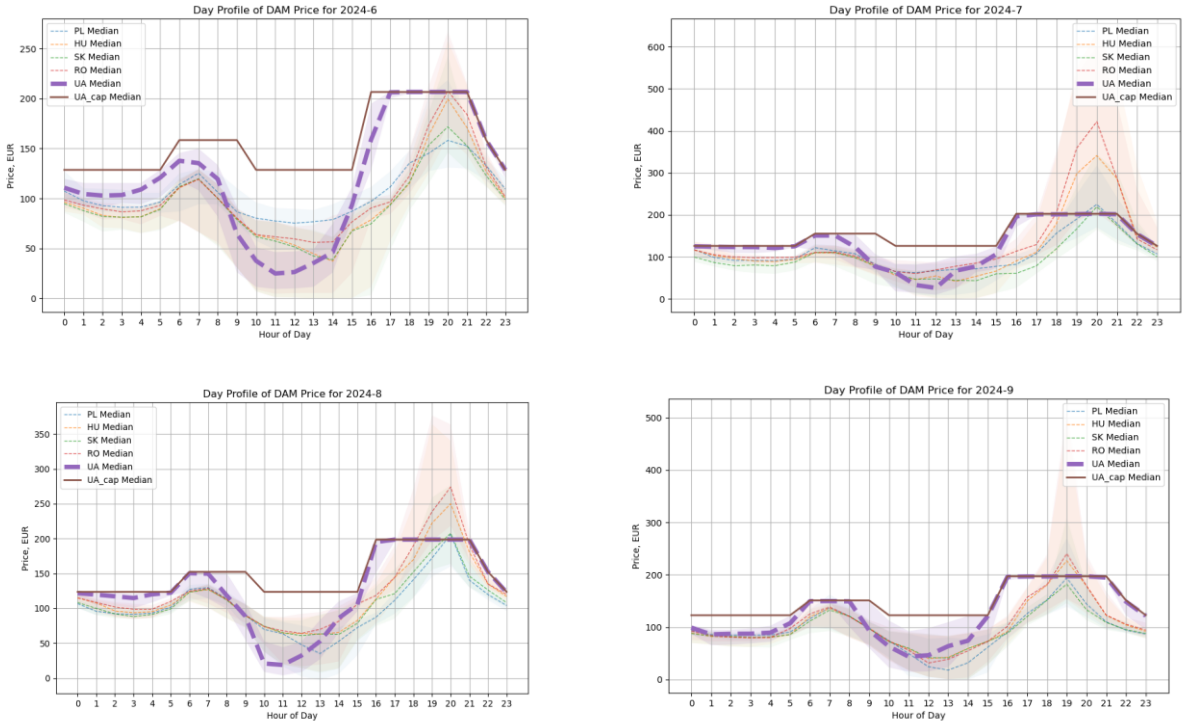
The analysis of actual day ahead market prices in the markets adjacent to Ukraine in the recent months, as shown on Figure 5, demonstrate that maximum price caps do not accommodate

[10] In order to neutralise the effect of fluctuating exchange rate, proposed caps from 31.10.24 are presented in EURO at the exchange rate of June 2024.

[11] Article 10 (1) of the REGULATION (EU) 2019/943 of 5 June 2019 on the internal market for electricity designates that "there shall be neither a maximum nor a minimum limit to the wholesale electricity price…" Article 10 (2) states that "NEMOs may apply harmonised limits on maximum and minimum clearing prices for day- ahead and intraday timeframes. Those limits shall be sufficiently high so as not to unnecessarily restrict trade, shall be harmonised for the internal market and shall take into account the maximum value of lost load. NEMOs shall implement a transparent mechanism to automatically adjust the technical bidding limits in due time in the event that the set limits are expected to be reached…"

electricity imports in the evening peak hours when electricity market prices in neighbouring countries are higher.

Figure 5. Overview of day ahead electricity prices in Ukraine and in the markets adjacent to Ukraine, incl. maximum price caps in Ukraine for June, July, August and September 2024 (6th-9th months respectively)



Source: ENTSO-E Transparency Platform, Market Operator of Ukraine, NEURC

In absence of market-based incentives, Ukrainian TSO may seek the measures of last resort to balance the system, such as emergency assistance from adjacent TSOs or demand cut-offs imposed on Ukrainian consumers. However, availability of the emergency assistance depends on the situation in the adjacent energy systems and can be requested by TSO only on a short-term basis. At the same time, the price of emergency assistance is higher than the price of electricity import, which makes the system balancing more expensive.

Moreover, the Electricity Market Law[12] requires electricity importers to sell at least 10% of their monthly electricity sales on DAM. In 2023, this obligation was temporarily suspended until January 2024. Since 2024, the Electricity Market Law has re-established this requirement for importers. This provision raises the risk of economic losses for importers in case of obligatory selling at a price lower than the imported price. This has a negative impact on their willingness and financial ability to import more electricity to Ukraine.

[12] Paragraph 9 of the Final and Transitional Provisions of the Electricity Market Law

Import of electricity and load shedding under the martial law

The deficit of supply capacities forced the massive load cut-offs of customers, both industrial and households. In order to attract additional imports, the Cabinet of Ministers of Ukraine (CMU) took the decision[13] in October 2023 to protect the non-household consumers with the predefined share of imported electricity from scheduled load shedding. When adopted, this regime covered non-household consumers with 30% or higher share of imported electricity in their hourly consumption (during May – September) and 50% or more of imported electricity (during October – April), that were protected from demand cut-offs. Currently, after amendments adopted in May 2024[14] and August 2024[15], this regime covers non-household consumers with at least 80% of purchased imported electricity in the total volume of their hourly consumption or those with at least 80% of the total amount of their hourly electricity consumption provided by the consumer's own electricity generation.

Notably, while aiming to promote customer's own generation, the latest amendments introduced a dilemma for consumers, as the regime does not allow combination of these two resources: own generation and import of electricity (to reach the 80% limit of covering their needs). The increase of the threshold on imported electricity to 80% in each hour may also disincentivize consumers to opt for this option, as the overall electricity mix for them may appear to be very costly due to the higher import price compared to the prevailing price caps. At the same time, installation of a generation facility requires significant time and resources; therefore, consumers may not be able to benefit from this regime, especially during the upcoming winter.

Moreover, the regime lacks the transparency since the results of monitoring its impact on the markets have not been published by NEURC or the Ministry of Energy. It also suffers from inconsistency with other relevant legislation in force regarding the power cut-offs and load-shedding procedures[16].

Excise tax and import duty on electricity in Ukraine

According to the Tax Code of Ukraine[17], electricity is an excise good (product), with the current tax rate of 3.2%. The payers of this excise tax are domestic producers of electricity (except producers from RES and qualified cogeneration)[18] and persons (business entities) that import electricity into the customs territory of Ukraine. Moreover, according to the Law on the Customs Tariff of Ukraine[19], an additional import duty of 2% is established for electricity.

These provisions constitute non-compliance of the Ukrainian legislation with the Article 41 of the Energy Community Treaty[20]. Moreover, the application of customs duties/excise taxes to imports of electricity to Ukraine also increases the cost of import for domestic customers, especially at the current times of great needs for more electricity.

[13] CMU Resolution No 1127 of 27.10.2023

[14] https://zakon.rada.gov.ua/laws/show/611-2024-%D0%BF#n5

[15] https://zakon.rada.gov.ua/laws/show/882-2024-%D0%BF#n2

[16] As initially introduced in 2023, the regime was assessed by the Secretariat in the Ukraine Energy Market Observatory 03/2023, https://www.energy-community.org/dam/jcr:0c4f28db-29e2-4ede-8c60-eb55e1a95aa0/Note_032023.pdf

[17] Article 215

[18] Article 213.2.8

[19] https://zakon.rada.gov.ua/laws/show/2697%D0%B0-20?fbclid=IwAR2AVIoUkz4KVA3v-OV1dd8JZhoatelNE6oGc-qcqensED4UyZtiaQqc3Js#n2

[20] Prohibits customs duties and quantitative restrictions on the import and export of Network Energy and all measures having equivalent effect

Cross-border capacity calculation and allocation

Joint short-term cross-border capacity allocations were successfully introduced on all Ukrainian borders with neighbouring EU Member States (Slovakia, Hungary, Poland and Romania) and Energy Community Contracting Party (Moldova). The allocation is done by JAO (for borders UA-PL, UA-HU and UA-SK) and Ukrenergo (for borders UA-MD and UA-RO) according to the Allocation Rules prepared by relevant TSOs and approved by national regulators.

The available capacity is determined by each of the TSOs according to the relevant methodologies in force and the lower value is offered on the auction. In Ukraine, a methodology for determining the available capacity of interstate crossings (cross-border capacity at interconnectors) was approved by resolution of NEURC No 893, dated 23 August 2018 (hereinafter, the Available Capacity Calculation Methodology)[21].

In March 2023, NEURC introduced an amendment to Martial Law Resolution No.332[22] providing that the auction office (Ukrenergo) shall allocate the cross-border capacity in the amount determined:

- for interconnectors between Ukraine - Moldova and Ukraine - Poland, as the amount of available capacity, determined by the TSO, taking into account the permissible standards of operational safety;
- for interconnectors between Ukraine - Romania, Ukraine - Slovakia and Ukraine - Hungary, as the minimum value between the amount of capacity allowed for allocation by the Regional Group of Continental Europe, taking into account the permissible standards of operational safety, and the amount of available capacity, determined by the TSO, taking into account the permissible standards of operational safety security.

While the Available Capacity Calculation Methodology requires Ukrenergo to follow the predefined sequence of calculations, the prevailing Resolution No.332 is very general regarding the approach to define the offered capacity.

According to the Electricity Integration Package, which Ukraine was obliged to transpose and implement by 31 December 2023, a commonly coordinated capacity calculation should be implemented. Regulation (EU) 2015/1222 establishing a guideline on capacity allocation and congestion management, as adapted and adopted in the Energy Community (EnC CACM), defines Eastern Europe capacity calculation region (EE CCR), including TSOs of Ukraine, Moldova and neighbouring EU MSs.

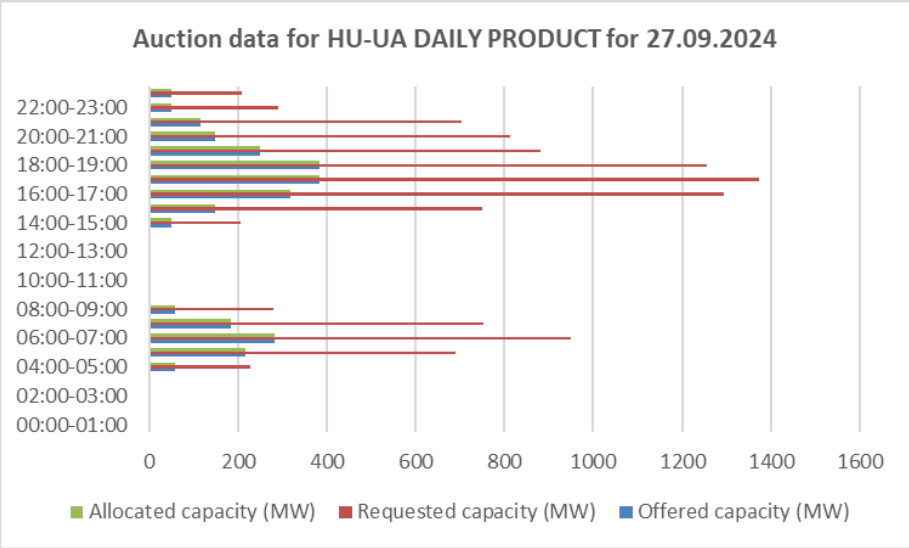
According to EnC CACM, the TSOs of EE CCR were obliged to conclude the cooperation agreement and submit a jointly developed proposal for a common coordinated capacity calculation methodology for day-ahead and intraday by 15 June 2023. However, the operationalisation of EE CCR is delayed. Also, according to Regulation (EU) 2016/1719 establishing a guideline on forward capacity allocation, as adapted and adopted in the Energy Community, a jointly developed proposal for the regional design of long-term transmission rights and for common coordinated capacity calculation methodology for long-term time frames shall be submitted by TSOs by 15 June 2024.

In practice, the offered capacity on borders between Ukraine and the EU fluctuates a lot from day to day, and from hour to hour (within the day), as can be observed from data published by JAO for

[21] Ukraine Energy Market Observatory 05/2023, https://www.energy-community.org/dam/jcr:0927550b-1194-45bf-ac14-70ed7f956357/Note05.pdf
[22] https://zakon.rada.gov.ua/rada/show/v0332874-22#Text

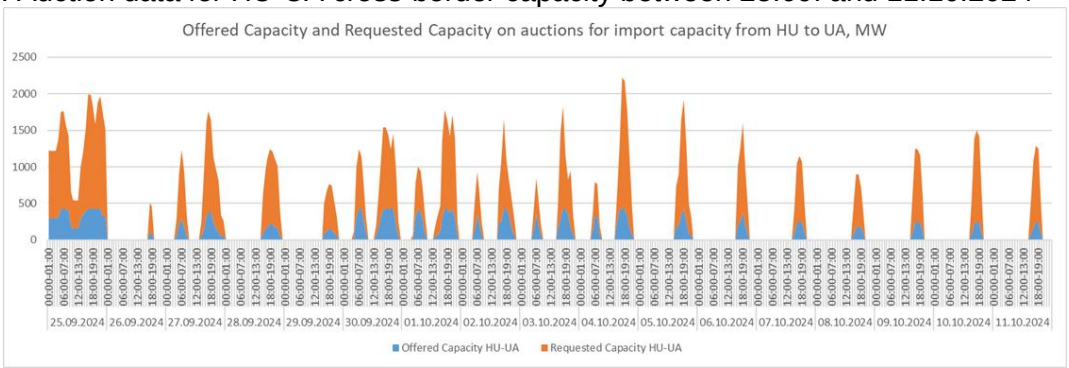
auctions on Ukrainian borders with EU MSs (HU, SK, PL) in 2024. During off-peak hours within the day, when the Ukrainian power system is expected to be sufficient to cover the national demand, the offered capacity for import to Ukraine decreases, while it usually increases in peak hours. In some cases, on HU-UA border, the offered cross-border capacity for import to UA can vary from 300-400 MW to 0 MW[23]. However, the requested capacity on the same cross-border direction by market participants is much higher than the offered capacity, as illustrated in Figures 6 and 7. A similar situation is at SK-UA and PL-UA borders. This indicates that market demand is above than offered capacity for electricity imports to Ukraine.

Figure 6. Auction data for HU-UA cross-border capacity on 27.09.2024



Source: www.jao.eu

Figure 7. Auction data for HU-UA cross-border capacity between 25.09. and 11.10.2024



Source: www.jao.eu

As the available transmission capacity (ATC) is currently offered only on a daily basis (there is no release of long-term capacity), the size of offered capacity depends on the values provided and calculated by TSO. The prevailing fluctuations in the offered capacity reveal uncertainties in TSO's calculation approach as the details and reasons for such a difference in offered capacity are

[23] As an example, the data for HU-UA border for 27.09.2024 are presented.

unknown. As a result, such an approach makes electricity import to Ukraine very unpredictable and risky for electricity importers and thus may impede higher utilization of allocated capacity[24]. This situation also raises questions about compliance with the principle of non-discrimination of cross-border exchanges vis-à-vis national supply contracts.

Keeping daily timeframe of capacity allocation is on the one hand justified by present risks to capacity firmness in Ukraine under conditions of war. However, on the other hand, it exposes the Ukrainian market to short term high electricity prices volatility of adjacent EU markets and creates uncertainties for electricity importers. Extending the capacity allocation time frame to at least one month would provide opportunities for contracting import more predictably and at better prices.

According to TSOs, the delay in the implementation of long-term allocation is caused by uncertainties in the Ukrainian power system as a result of attacks on the Ukrainian energy infrastructure (TSOs would like to avoid regular curtailments). Long-term allocation can be implemented upon the decision of relevant TSOs to do this and following the confirmation by the RG CE about the technical possibility of providing the calculation of the capacity for the long-term. For now, the process of drafting the rules for the long-term capacity allocation (via JAO) has been initiated by the TSOs.

Congestion income sharing in Ukraine

According to Article 43 of the Electricity Market Law the revenue from the cross-border capacity allocation may be used by TSO for the following purposes:

- guaranteeing the actual availability of allocated capacity;
- technical maintenance and capacity increase through investments in the transmission system, particularly in the construction of new interstate power transmission lines.

However, starting from 2020, the revenues of TSO from the cross-border capacity allocation were used to cover other costs, not related to cross-border capacity allocation by decisions of the Verkhovna Rada. Thus, during 2022-2023, the relevant revenues were used by TSO to cover the debts on the balancing market and those arising from the RES PSO. According to the Electricity Market Law, only 10% of congestion revenues were allowed to be utilized for guaranteeing the actual availability of allocated capacity and investments into interconnectors in 2023. The latest amendments introduced by Law No. 3915[25] of 21.08.2024 prolonged the non-applicability of Article 43 for 2024 and require using all congestion revenues on debt settlement (50% on BM and 50% on RES PSO).

Such re-allocation of revenues from cross-border capacity allocation to other purposes is non-compliant with the Energy Community acquis[26] and impacts the financial resources of TSO for guaranteeing the allocated capacity and development and maintenance of cross-border interconnections (especially crucial in the circumstances Ukraine has due to significant damage to infrastructure).

As the guarantee of available capacity includes compensation for curtailment of allocated capacity, the lack of resources potentially may also impact the TSO's decisions regarding the amount of

[24] For example, in RO-UA direction, the degree of use of the capacity allocated was around 30% during January-March 2024. Source: Transelectrica website.
[25] https://zakon.rada.gov.ua/laws/show/3915-20#n49
[26] Article 19 of Regulation 2019/943

offered capacity. Ukrenergo will be inclined to decrease the offer to safeguard itself from possible compensations for curtailments. This has even more impact when negotiating with neighbouring TSOs on the introduction of medium- and long-term capacity allocation, as the risk of curtailments may rise in time.

Also, the Electricity Market Law determines the maximum share of revenues from cross-border capacity allocation, which TSO may share with neighbouring TSOs, at 50% of total revenue per border. The Energy Community acquis provides that the congestion income shall be shared among the TSOs involved in accordance with criteria agreed by them and reviewed by the respective regulatory authorities[27].

The amount (and costs) of technical developments/reinforcements of the network on both sides of the border to guarantee or to increase the cross-border capacity may be used by TSOs as one of such criteria. But, in case more investments are needed on the side of neighbouring TSO, Ukrenergo is bound by the Law by 50% limit.

Restrictions on the pricing and export of electricity on EU borders

The implementation of inframarginal revenue caps in some EU Member States in response to the energy crisis, based on the provisions of the Emergency Regulation 2022/1854 was applied quite differently starting from the national rules, cap levels and cap duration, creating high uncertainty and unclarity for investors. This could contribute to reduced investments and an increase in the costs of financing due to the perception of risk, as has been also recognized in ACER's 2023 Market Monitoring Report [28]. Some of the neighbouring countries like Hungary and Romania are maintaining the mechanism until the end of this year or even until April next year which could hamper the free price formation on the wholesale electricity market and could be interpretated as a quantitative restriction on exports[29].

Delay in the joining the ITC mechanism by Moldelectrica

Ukrenergo joined the ITC mechanism starting from 1 July 2024[30]. As a result, the perimeter fee ceased to apply for cross-border transactions on border between Ukraine and EU MSs.

As Moldelectrica, Moldovan TSO, is not a part of ITC Mechanism, the cross-border exchanges between UA-MD are under perimeter fee (since 1 July 2024 it is 2,5 EUR/MWh)[31]. Due to this, the import through border UA-MD is going to be more expensive and the ATC is not used in full amount.

[27] Regulation 714/2009, point 6.3 of Annex (as the EIP not transposed in Ukraine)
[28] As was highlighted by EFET, Eurelectric and other Associations of renewables in their joint letter sent in December 2023 to the European Parliament and Energy Commissioner https://cms.energytraderseurope.org/storage/uploads/media/231207-joint-industry-letter-on-inframarginal-revenue-caps.pdf
[29] https://energy.ec.europa.eu/news/october-infringement-package-key-decisions-energy-2024-10-03_en#:~:text=Today%2C%20the%20European%20Commission%20decided%20to%20open%20an,gas%20as%20well%20as%20the%20export%20of%20gas
[30] https://ua.energy/uchasnikam_rinku/itc/
[31] https://www.entsoe.eu/news/2024/09/30/market-committee-approves-new-itc-audit-results-and-2024-perimeter-fee/

Recommendations

Based on the identified technical and regulatory barriers that negatively impact import of electricity from EU to Ukraine, the Secretariat recommends the following national, regional and EU-wide measures to secure higher electricity imports to Ukraine during the upcoming winter season. These recommendations on maximizing electricity imports are complementary to the ongoing efforts to rebuild and expand generation capacities in Ukraine.

Recommendations addressing measures at the national level in Ukraine:

- To improve the NEURC's DAM/IDM/BM market price-caps Methodology in a way to allow for automatic adjustments of the price caps based on clearly defined criteria, data and calculation parameters related to price fluctuations and to eliminate restrictions on market price formation.
- Understanding that the revision of the DAM/IDM/BM market price-caps Methodology can take time, the revision of the price caps allowing the market to absorb import when it is needed according to the real demand is recommended as a short-term, temporary solution before the upcoming winter. The price caps shall be the same for all hours of the day. In the longer term, the price caps shall be replaced with the above-said Methodology with the automatic adjustment mechanism.
- To enhance NEURC's monitoring and compliance enforcement activities focused on transparency of capacity calculation by the TSO to ensure its compliance with obligations under the Energy Community acquis and national law;
- To cancel the maximum share of revenues from cross-border capacity allocation, which TSO may share with neighbouring TSOs, determined by law at 50% of total revenue per border. The congestion income should be shared among the TSOs in accordance with the criteria agreed upon between the TSOs involved as reviewed by the respective regulatory authorities;
- To use the revenues from cross-border capacity allocation for primary purposes, namely for guaranteeing the actual availability of allocated capacity and capacity increase through investments in the transmission system. This should contribute to the discussion on the introduction of long-term capacity allocation as one of the sources to secure the higher risks of curtailments;
- To cancel the requirement to importers to sell at least 10% of imported electricity at the day ahead market;
- To abolish excise taxes and import duties as a mean to reduce the costs of electricity imports;
- To allow electricity non-household consumers to use a combination of two resources, own generation and import, to reach the 80% threshold and benefit from protection from disconnection under the scheduled load shedding.

Recommendations addressing measures at the EU and regional levels:

- To analyse and consider a possibility of further increase of the import capacity from Continental Europe to Ukraine and Moldova within the ENTSO-E RG CE framework;
- To implement a coordinated capacity calculation methodology in the EE CCR in accordance with the Electricity Integration Package;

- To consider introduction of long-term capacity allocation starting with monthly allocation;
- To revise and remove any national legal and regulatory barriers to exports of electricity to Ukraine in the neighbouring EU MSs;
- To consider a possibility of relieving certain limitations in the capacity calculations (for example by allowing certain overloading of the overhead lines and transformers in the N-1 situations, especially if dispatching measures are available to relieve the critical network elements regardless of the additional costs);
- To implement short-term measures for quick reinforcements of the grid to be prepared or the winter 2025/26 (phase-shifters or FACTS, replacement of critical transformers, reinforcing critical lines, if possible, for example by applying the High Temperature Low Sag conductors);
- To support the construction of new interconnection lines between Ukraine and Moldova, and neighbouring EU MSs in the mid and long-term timeframe;
- To support Moldelectrica's entry into the ITC mechanism as soon as possible.