



Renewable Energy of Ukraine: Monthly Monitoring

September 10, 2021

European-Ukrainian Energy agency

Content

Summary	3
Electricity from RES generation statistics	5
Installed capacity of the power system of Ukraine as of September 1, 2021	5
Review of the share of RES in the power system for August 2021	8
Information on the generation curtailments of Ukrenergo for August, 2021	9
Monitoring of the Memorandum Implementation and Law of Ukraine No. 810-IX.....	9
Information on payments for electricity at the "green" tariff as of September 1, 2021.....	13
Constitutional proceedings against RES and a statement to the Antimonopoly Committee on the recognition of the "green" tariff as state aid.....	13
Legislative initiatives for the period from August 1 to August 31, 2021, affecting the activities of RES producers	15
Top news of the RES sector for June-August 2021	15

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Established in 2009, European-Ukrainian Energy Agency (EUEA) as a non-governmental, non-profit organization, business association has grown into an effective advocate for the realization of Ukraine's massive renewable energy and energy efficiency potential, by working within Ukraine's business community, government structures, and with other key energy market stakeholders.

Members of EUEA: Acciona, Arzinger, Beycelik-Elawan Renewable Energy LLC, CCT Energy, CES, DTEK, EMSOLT, Electrum, Elementum Energy, Eurocape, GOLAW, Guris, Green Genius, GrECO Ukraine, GSE&C, Huawei, iC consulenten, IMEPOWER, Indian Solar, IRUN Engineering, Irshanska SPP, Khmelnytsky Bio Power Plant, NBT AS, Met Energy, Scatec, Schneider Electric Ukraine, Sfera, Smart Energy, Sungrow, West Solar, Terra Solar, Thermosystems, Total Eren, Ukraine Power Resources, Ukrwindinvestments, Voltage Group.

Summary

- Installed capacity of Renewable Energy Sources (RES) in Ukraine according to the Ukrainian State Agency on Energy Efficiency and Energy Saving (SAEE) and NEURC – **9313 MW** as of September 1, 2021. **647 MW** - new added capacity in 2021, of which 264 MW SPP, and 354 MW-WPP.
- Dnipropetrovsk region is the leader by installed capacity of SPP – **1134.1 MW**. The leader by installed capacity of wind power plants (WPPs) is Zaporizhia region - **595.8 MW**. Vinnytsia region has the largest capacity of small hydropower plants - **24.6 MW**, and Khmelnytsky has the largest installed capacity of biomass and biogas - **34.6 MW**.
- **9%** - the share of RES generation in the total energy produced by the Integrated Power System (IPS) of Ukraine in August 2021.
 - In 6 days from August 31, RES generation curtailments were made to a total of 5256 MW, with an average of 876 MW per day. In total, since the beginning of the year, the restrictions of RES generation have been 55 days for a total capacity of 60390 MW.
 - As of September 1, the level of payment under the “green” tariff is: for January - April - 93%, May - 73%, for June - 70%, July - 65%, August (20 days) - 51%. The average level of payment from the beginning of 2021 is 78%.
 - The weighted average price of electricity for August DAM on the IPS of Ukraine was UAH 2073.67 or 65.24 Euro for MWh (converted according to the official exchange rate of the NBU as of September 8, 2021).
- Other significant events were the adoption of a law extending the validity of the technical specifications for wind farms until December 31, 2022, the NEURC has made changes to the procedure for establishing a "green" tariff, Presidential Decree on the Implementation of the Decision of the National Security and Defense Council "On Measures to Neutralize Threats in the Energy Sphere".
- Undefined still remain the draft law №5600, which may impose an excise tax of 3.2% for electricity from RES, however, given that the text has already been voted on in

the first reading. The fate of the case against RES in the Constitutional Court remains unclear.

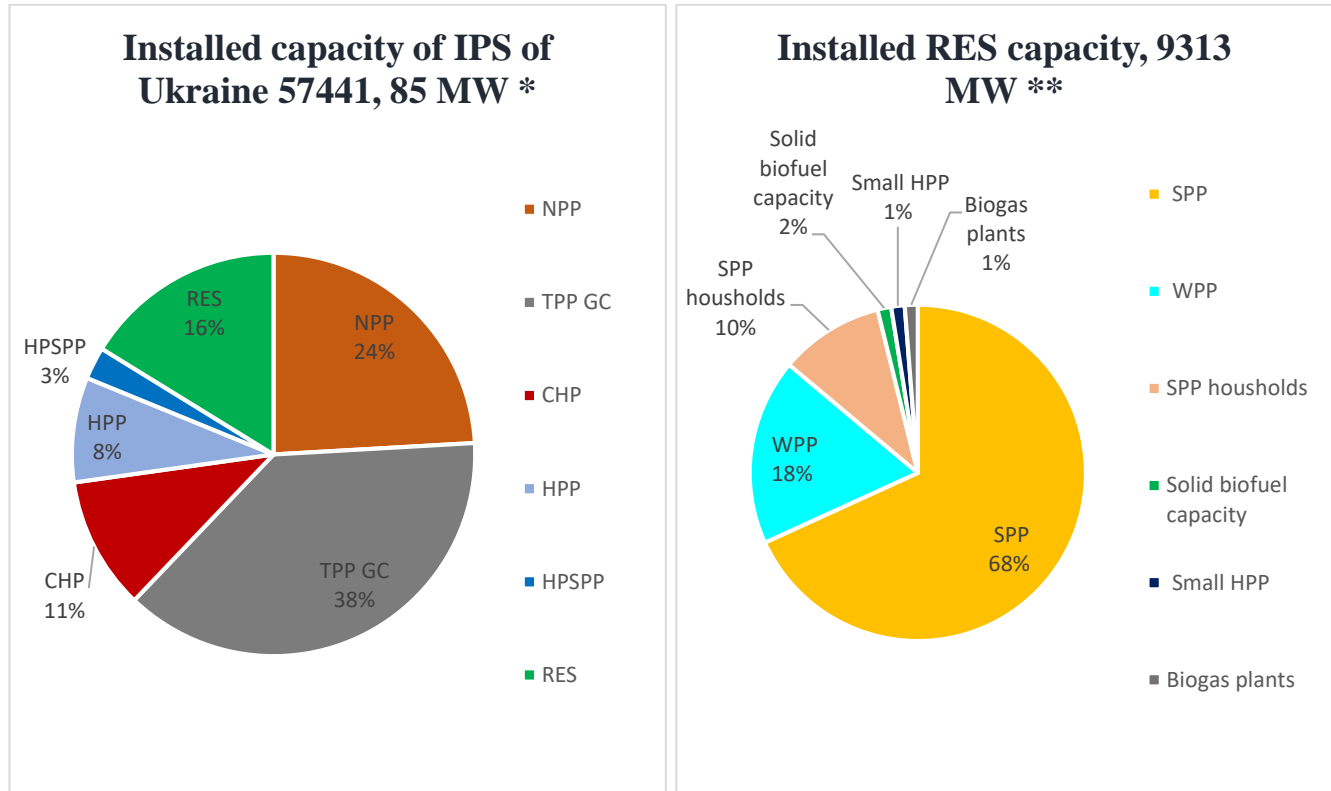
- Interesting is the recently published draft law of the Ministry of Energy on the possibility of leaving the balancing group and the actual introduction of the mechanism of contracts for difference, and the Ministry of Energy has published a draft law on the establishment and operation of energy storage systems, so more than 5 draft laws on this topic are being on public discussion.
- In August, the Ministry of Energy held a meeting of the Working Group on the Development of the Hydrogen Energy Development Strategy of Ukraine, during September, all responsible state structures must provide the requested information necessary for the formation of a strategy work plan.

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Electricity from RES generation statistics

Installed capacity of the Integrated Power System (IPS) of Ukraine as of September 1, 2021:



* Resource (Ukrenergo): <https://ua.energy/vstanovlena-potuzhnist-energosityemy-ukrayiny/>

** Resources: SAEE as of the end of the first half of 2021, NEURC as of 01.07.2021:

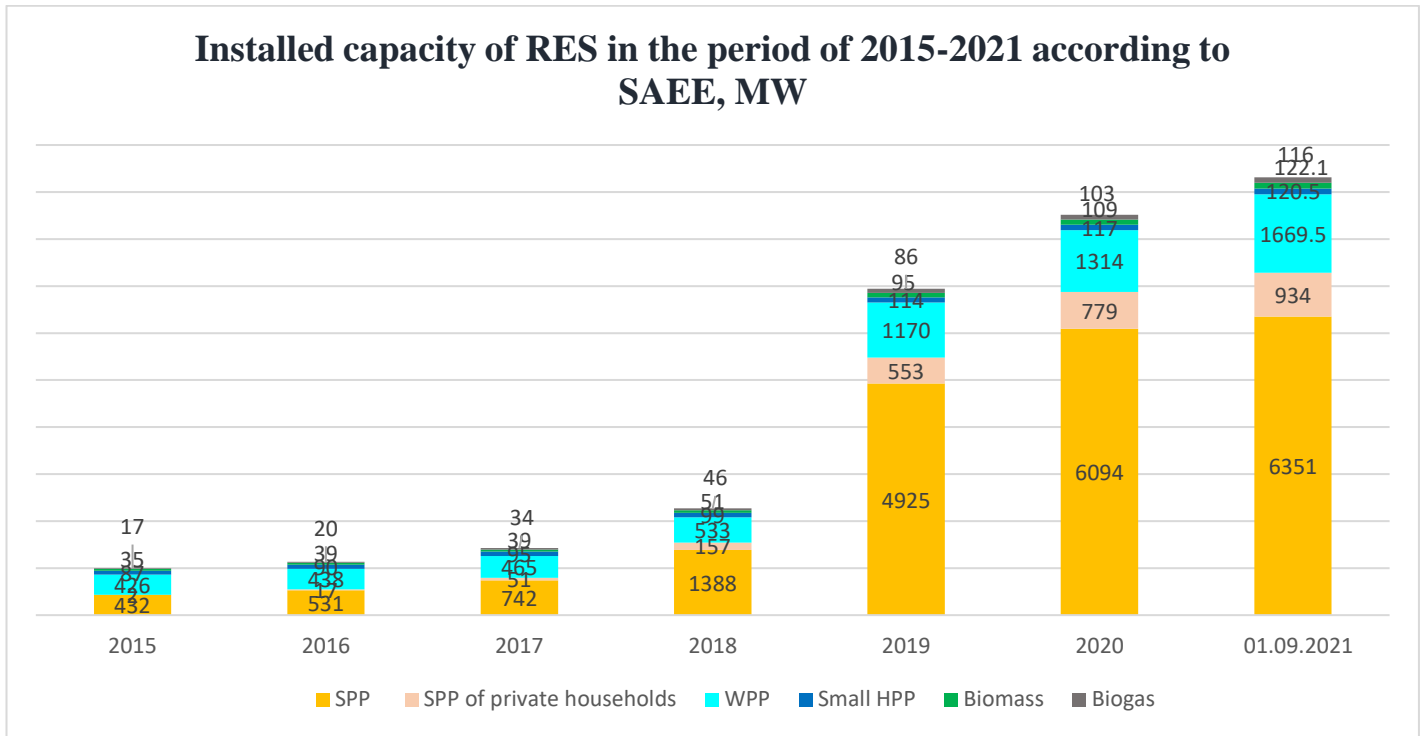
<https://www.facebook.com/saeEU/posts/6303411463004170>, <https://www.nerc.gov.ua/?id=60637>

According to the Transmission System Operator of PJSC “NEC “Ukrenergo”, the installed capacity of the Ukrainian power system as of the end of August 2021 is **57411.85 MW**, and separately for RES according to SAEE and NEURC - **9313 MW**.

647 MW (constructed in 2021: 264 MW SPP and 354 MW WPP).

1348 MW (constructed in 2020: 1168 MW SPP & 144 MW WPP).

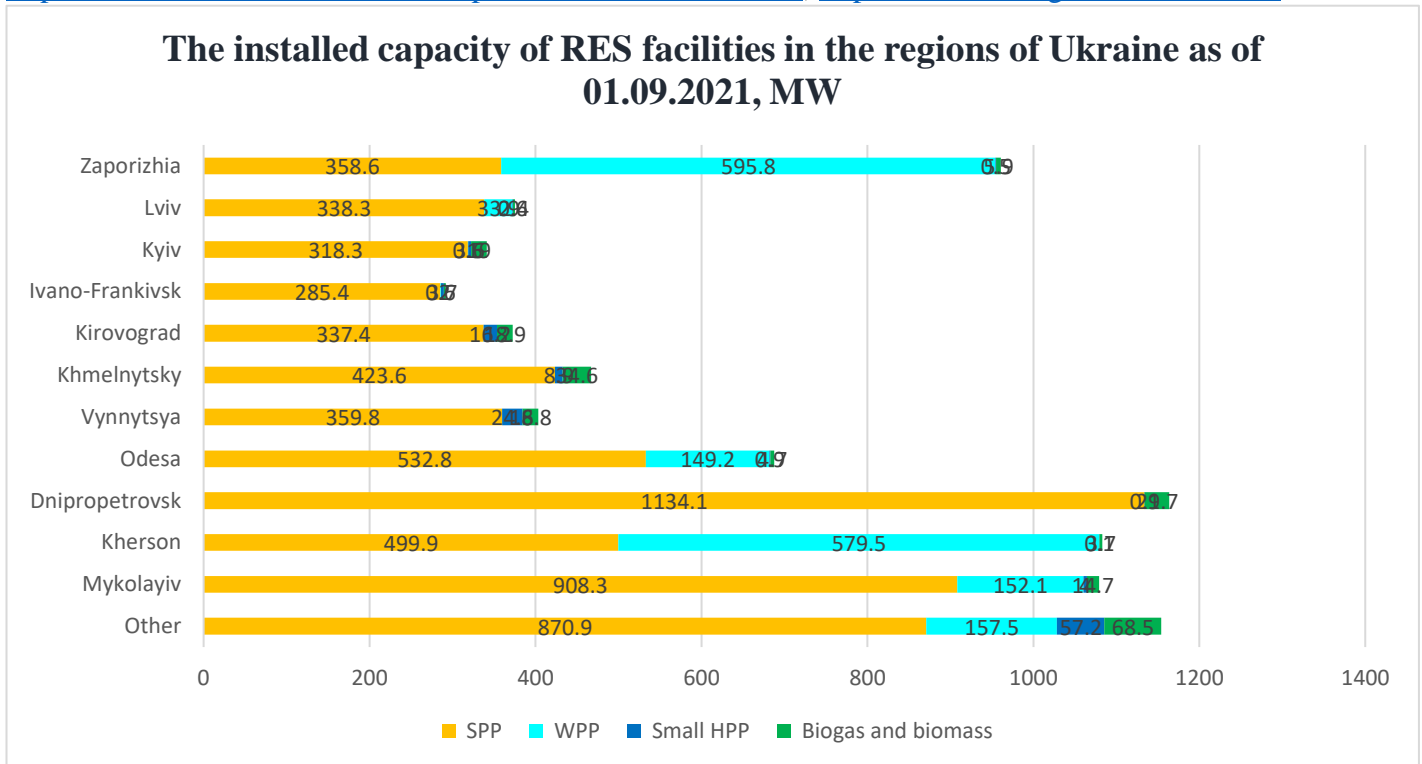
Installed capacity of RES in the period of 2015-2021 according to SAAE, MW



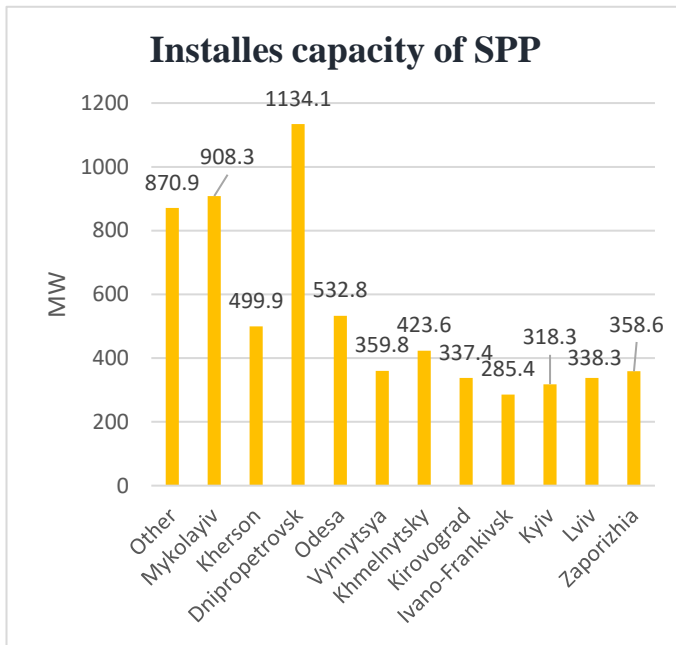
Resources: SAAE as of the end of the first half of 2021, NEURC as of 01.07.2021:

<https://www.facebook.com/saeUA/posts/6303411463004170>, <https://www.nerc.gov.ua/?id=60637>

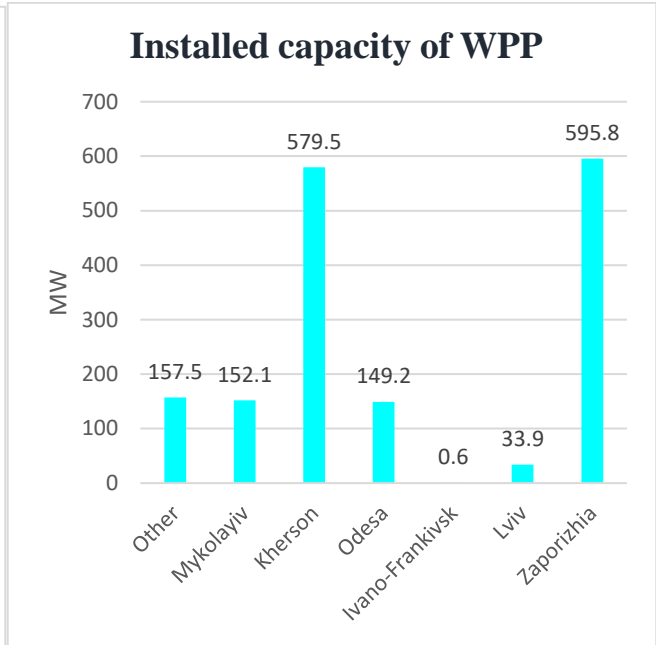
The installed capacity of RES facilities in the regions of Ukraine as of 01.09.2021, MW



Resource: <https://www.nerc.gov.ua/?id=50471>

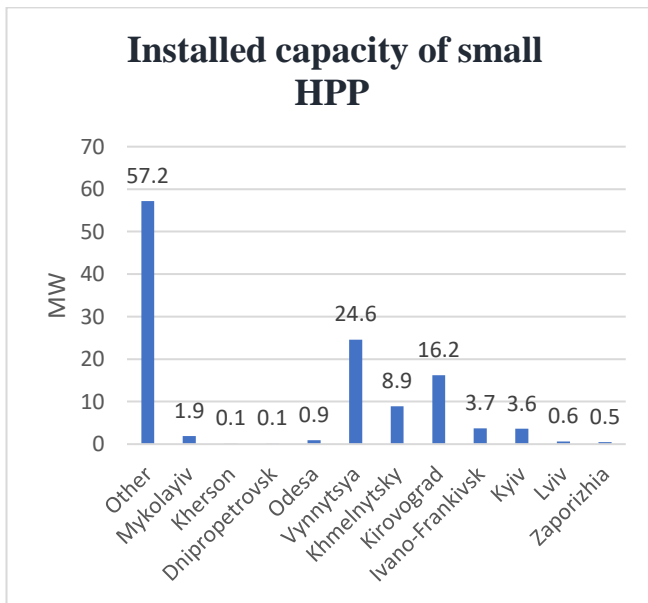


*As of 01.09.2021

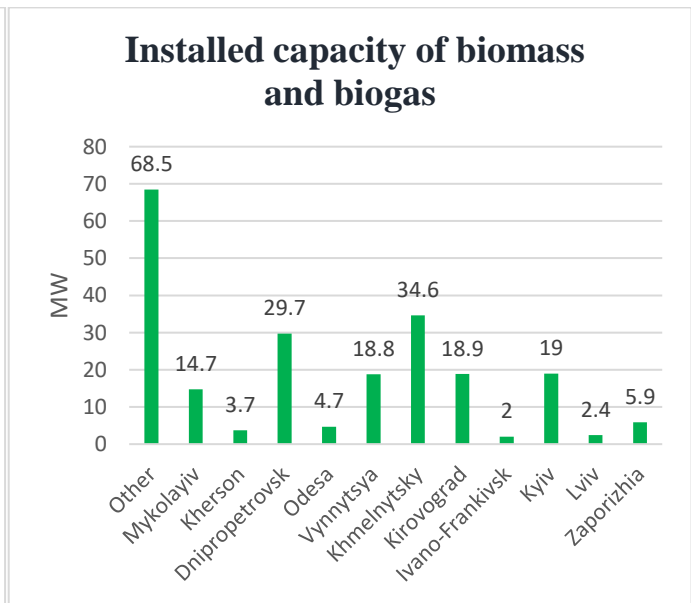


*As of 01.09.2021

Most of the solar power is installed in Dnipropetrovsk region - 1134.1 MW, in Mykolayiv - 908.3 MW and Odessa - 532.8 MW. Kherson and Zaporizhia regions show the largest amount of installed wind capacity - with 579.5 MW and 595.8 MW, respectively.



*As of 01.09.2021

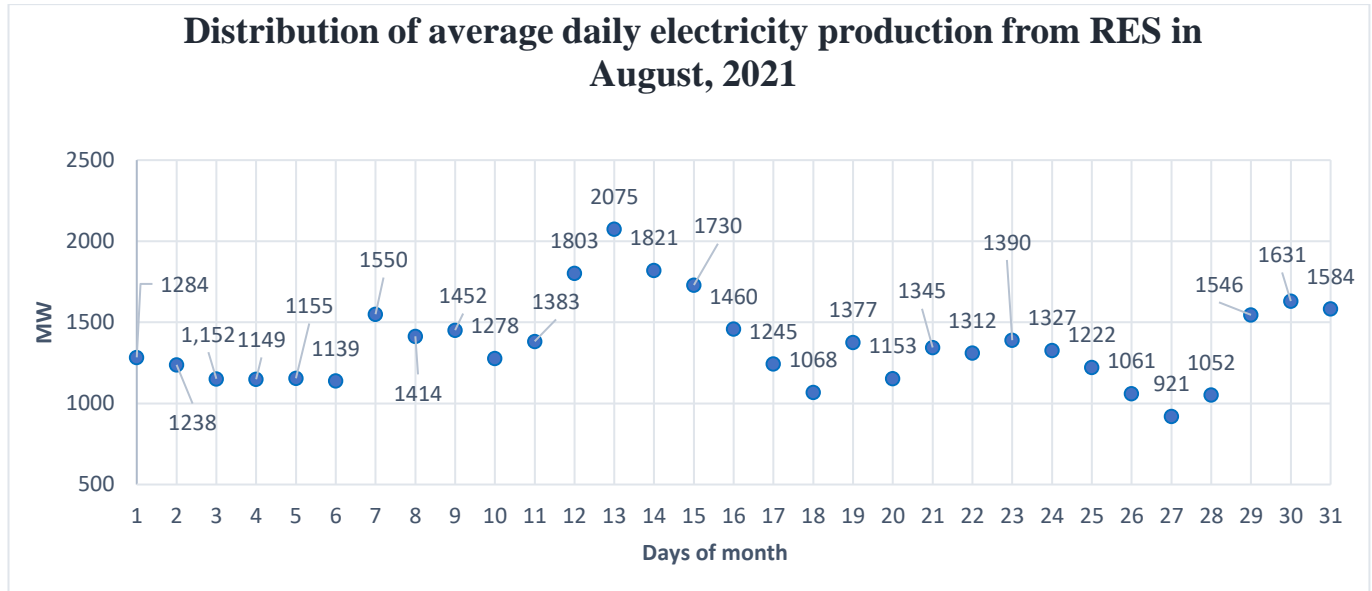


*As of 01.09.2021

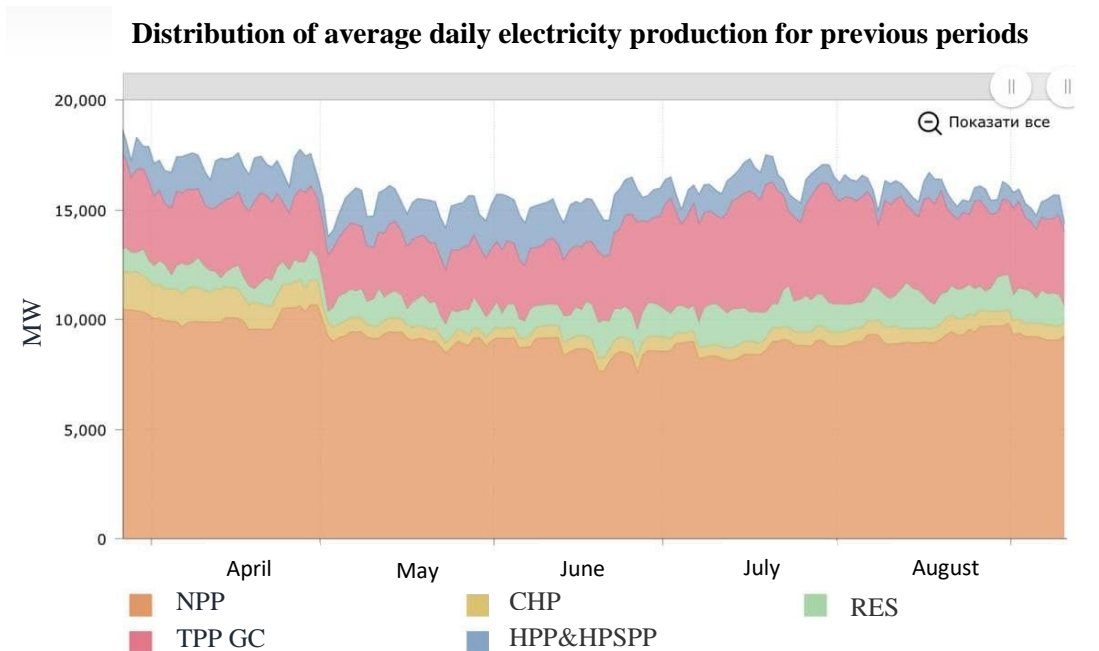
Vinnitsya region has the largest capacity of small hydropower plants - 24.6 MW, the second place is occupied by Kirovograd region - 16.2 MW, the third is Khmelnytsky - 8.9 MW. Khmelnytsky has the largest capacity in terms of biomass and biogas - 34.6 MW and Dnipropetrovsk region - 29.7 MW.

Review of the share of RES in the power system for August 2021

9% - the share of RES generation in the total energy produced by the Integrated Power System (IPS) of Ukraine in August 2021.

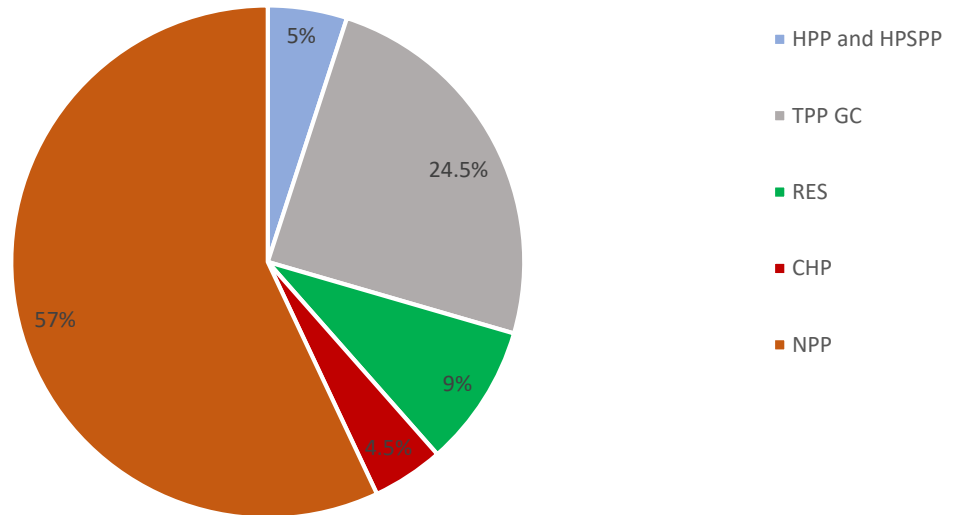


Resource: <https://ua.energy/peredacha-i-dyspetcheryzatsiya/dyspetcherska-informatsiya/roboota-oes-ukrayiny-za-tyzhden/>



Resource: <https://ua.energy/peredacha-i-dyspetcheryzatsiya/dyspetcherska-informatsiya/roboota-oes-ukrayiny-za-tyzhden/>

Structure of IPS generation in August, 2021



Resource: <https://ua.energy/peredacha-i-dyspetcheryzatsiya/dyspetcherska-informatsiya/roboota-oes-ukrayiny-za-tyzhden/>

Information on the generation curtailments of Ukrenergo for August, 2021

In **6 days** of August 31, generation were limited to a total of **5256 MW**, with an average daily capacity of 876 MW.

In the period from June to August 2021, the curtailments of RES generation happened in **19 days** for a total of **16874 MW** with an average capacity of 888 MW.

In total, since the beginning of the year, the curtailments happened in **55 days** for a total capacity of **60390 MW**.¹

Monitoring of the Memorandum Implementation and Law of Ukraine No. 810-IX

On June 10, 2020, a Memorandum was signed between the Government of Ukraine and sectoral associations in the field of RES (European-Ukrainian Energy Agency and Ukrainian Wind Energy Association).

¹ <https://ua.energy/novyny/> - - from the weekly news about the operation of the energy system for 2021

There is a list below of commitments made by the state of Ukraine to stabilize the industry, in addition to reducing the "green" tariff.

<p>Granting the right to SE "Guaranteed Buyer" to sell electricity produced from RES at auctions under bilateral agreements.</p>	<p>The Guaranteed Buyer sold 1227 thousand MWh of electricity from RES for more than 40% for the II quarter of 2021 under bilateral agreements.²</p> <p>According to current data as of 31.08.2021, SE "Guaranteed Buyer" sold 561 thousand MWh of electricity from RES as a result of trading on the stock exchange, which is 13% of total electricity sales in July 2021.³</p> <p>NEURC called on SE "Guaranteed Buyer" to maximize the share of sales of electricity from renewable sources in the market of bilateral agreements, today it is 50%; The Regulator noted during a meeting on September 1, 2021, that if Guaranteed Buyer does not increase this share in the future - it will receive tougher sanctions.</p>
<p>Improving the procedure for organizing and conducting auctions for the distribution of support quotas.</p>	<p>Adopted in the Law of Ukraine № 810-IX of 21.07.2020. According to the Ministry of Energy, the auction procedure is currently being improved.</p> <p>Currently, the Ministry of Energy has prepared a draft resolution, which provides for improving the procedure for conducting auctions.</p> <p>The draft resolution on 14.05.2021 was sent for approval to the Central Authorities and published on the official website of the Ministry of Energy for comments and suggestions within a month.⁴</p> <p>Most likely, the auctions should be held within the Feed-in-Premium model, which can be adopted in 2022.</p>
<p>Stabilization clause, which provides for the invariability of the legislation in force at the time of entry into force of the Law of Ukraine №810-IX of August 1, 2020.</p>	<p>This point was violated because on June 2, 2021, the Draft Law №5600 on the introduction of excise duty of 3.2% on the sale of electricity produced from renewable energy sources (RES) was registered. Details in the review of the Draft Law 5600.⁵ The draft law passed the first reading in</p>

² <https://www.gpee.com.ua/main/news?id=719>

³ <https://www.gpee.com.ua/main/news?id=749>

⁴ http://mpe.kmu.gov.ua/minugol/control/uk/publish/article?art_id=245534726&cat_id=167475

⁵ https://w1.c1.rada.gov.ua/pls/zweb2/webproc4_1?pf3511=72106

	<p>the Verkhovna Rada on July 1, 2021, the date of the second reading is still unknown. Nevertheless, according to expert opinions, a whole Draft Law 5600 has the potential to bring to the State Budget more than 40 billion UAH per year, while RES of this amount through excise duty can pay 1.7-2 billion UAH. These are relatively small funds to lose Ukraine's face as a reliable business partner in the international arena, as it is a violation of state guarantees and the rule of law, through retroactive changes in legislation, for market participants and investors.</p>
<p>100% payment to RES producers, which were to occur from August 1, 2020.</p>	<p>Current payments: for January-April - 93%, May - 73%, June - 70%, July - 65%, August (20 days) - 51%.⁶</p>
<p>Repayment of the existing debt of UAH 22.4 billion that has accumulated for the period up to August 1, 2020 to producers of electricity from RES.</p> <p>The repayment schedule is provided in the Memorandum of Understanding: 40% in the 4th quarter of 2020; 15% quarterly during 2021.</p>	<p>According to the plan, by the end of the 3 quarter of 2021, 85% of the debt should be repaid. However, only 28% was repaid. There is still UAH 16 billion of debt for 2020.</p> <p>According to open resources, PJSC “NEC “Ukrenergo” is preparing to issue bonds with total 500 million Euros in the autumn of this year in order to attract additional financial resources for the transfer of them to SE "Guaranteed Buyer" and repayment of debt to producers of "green" electricity for 2020.⁷</p>
<p>Development and implementation of a mechanism for compensation of producers for unproduced electricity from RES.</p>	<p>As of today, there are many negative comments from electricity producers from RES regarding the operation of the system, to the compensation mechanism for curtailments, balancing, calculation formulas.</p>
<p>Increasing the tariff for the services of electricity transmission of PJSC NPC “Ukrenergo” to a sufficient level to cover the FIT.</p>	<p>The current tariff is UAH 293.93 / MWh without VAT. This tariff set in December 2020 is insufficient to cover 100% of payments under the "green" tariff, the tariff was not revised.</p>
<p>Compensation of 20% of the "feed-in" tariff from the State Budget.</p>	<p>Not provided in the State Budget 2021.</p> <p>20% from the State Budget, that should be guaranteed to go to RES producers for payment under Law № 810-IX, has never been paid. And the responsibility for making political decisions is constantly shifted between government agencies. This uncertainty allows the</p>

⁶ <https://www.gpee.com.ua/main/news?id=342>

⁷ <https://kosatka.media/uk/category/elektroenergiya/news/v-ukrenergo-rasskazali-o-planah-po-vypusku-zelenyh-obligacij>

	NEURC to keep the transmission tariff low, each time excluding from its value 20%, which is guaranteed by law from the State Budget.
The right of RES producers to leave the balancing group of the Guaranteed Buyer.	<p>On August 26, 2021, the Ministry of Energy published a Draft Law of Ukraine "On Amendments to Certain Laws of Ukraine on Stimulating the Production of Electricity from Alternative Energy Sources on a Market Basis." The Draft Law provides for the right of producers of electricity from alternative energy sources to leave the balancing group of the Guaranteed Buyer and freely sell electricity on the market with the possibility of receiving a surcharge in the form of the difference between the established "green" tariff or auction price and market price, improvement of the auction model of support in accordance with the best world practices.⁸</p> <p>EUEA member companies are preparing joint comments on this, which will be sent in the near future.</p>
Stimulation of balancing and energy storage systems.	<p>There is a list below of legislative initiatives in the field of energy storage and their main initiators:</p> <ul style="list-style-type: none"> • Yuriy Kamelchuk, People's Deputy of Ukraine (draft law No. 2582, No. 5436-1); • Oleksiy Kucherenko, People's Deputy of Ukraine (draft law No. 5436); • Andriy Gerus, People's Deputy of Ukraine (draft law No. 5436-2, No. 5518); <p>Currently, the Ministry of Energy has published a new Draft Law of Ukraine "On Amendments to Certain Laws of Ukraine on the Development of Energy Storage Systems».⁹</p>
Conducting auctions for the distribution of RES support quotas until the end of 2020. ¹⁰	We will remind that the previous acting Minister of Energy of Ukraine, Olga Buslavets presented on December 3, 2020 (not yet approved by the Cabinet of Ministers of Ukraine) annual support quotas and the schedule of auctions. See here on the page 9.

⁸ http://mpe.kmu.gov.ua/minugol/control/uk/publish/article?art_id=245570020&cat_id=167475

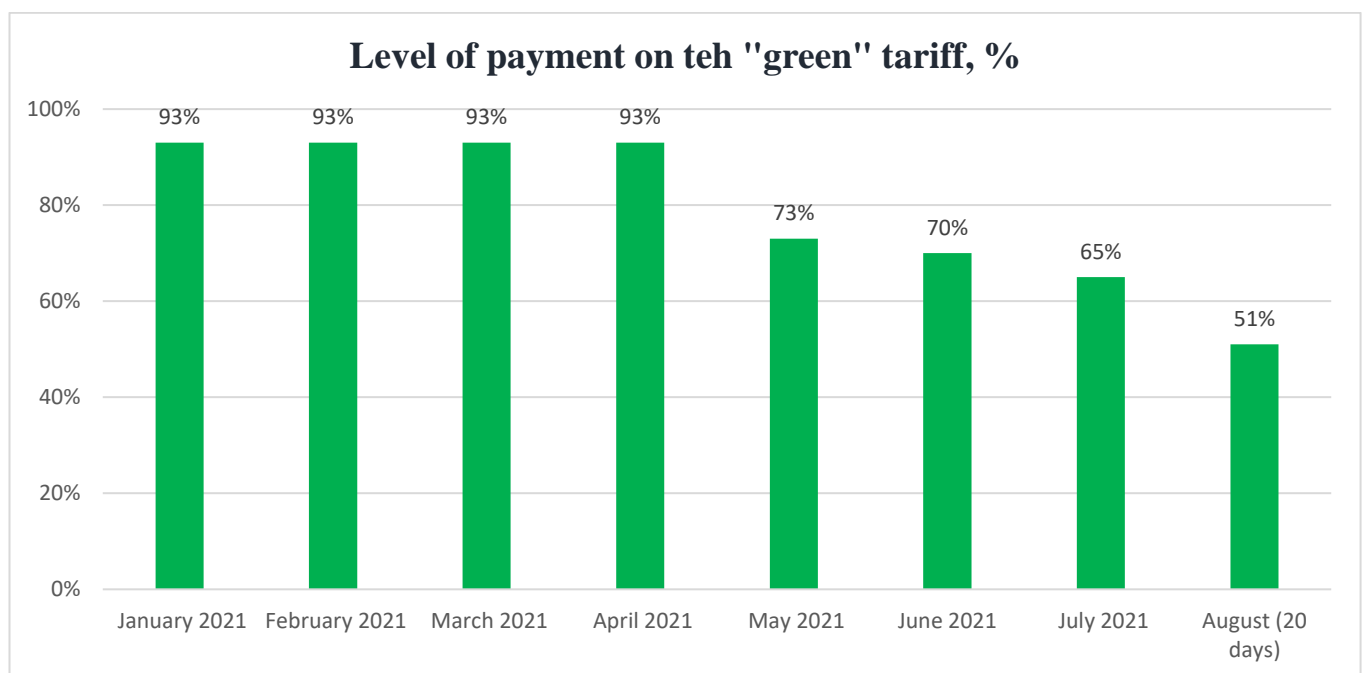
⁹ http://mpe.kmu.gov.ua/minugol/control/uk/publish/article?art_id=245573969

¹⁰ http://mpe.kmu.gov.ua/minugol/control/uk/publish/article?art_id=245573969&cat_id=167475&fbclid=IwAR1WR8eli4AZY9BTX31iLLi_euqQop7EDNask02NGZvNZamCsxbdq_5IDbI

Most likely, the auctions should be held within the Feed-in-Premium model, which can be adopted in 2022.

Information on payments for electricity at the "green" tariff as of September 1, 2021

The level of payment at the "green" tariff for **January - April - 93%, May - 73%, for June - 70%, July - 65%, August (20 days) - 51%**. The average level of payment from the beginning of 2021 is **78%**.



Resource: <https://www.gpee.com.ua/main/news?id=342>

Constitutional proceedings against RES and a statement to the Antimonopoly Committee on the recognition of the "green" tariff as state aid

There is no news on this issue this month.

We will remind, last year (July 2020) the group of MPs submitted the statement to the Constitutional Court, concerning the unconstitutional "green" tariff, the statement was accepted for consideration and proceedings were opened, the case is still open, there is no decision. EUEA and the leading RES associations sent their conclusions and arguments in support of the constitutionality of the existing mechanism in the RES sector. Also, as known,

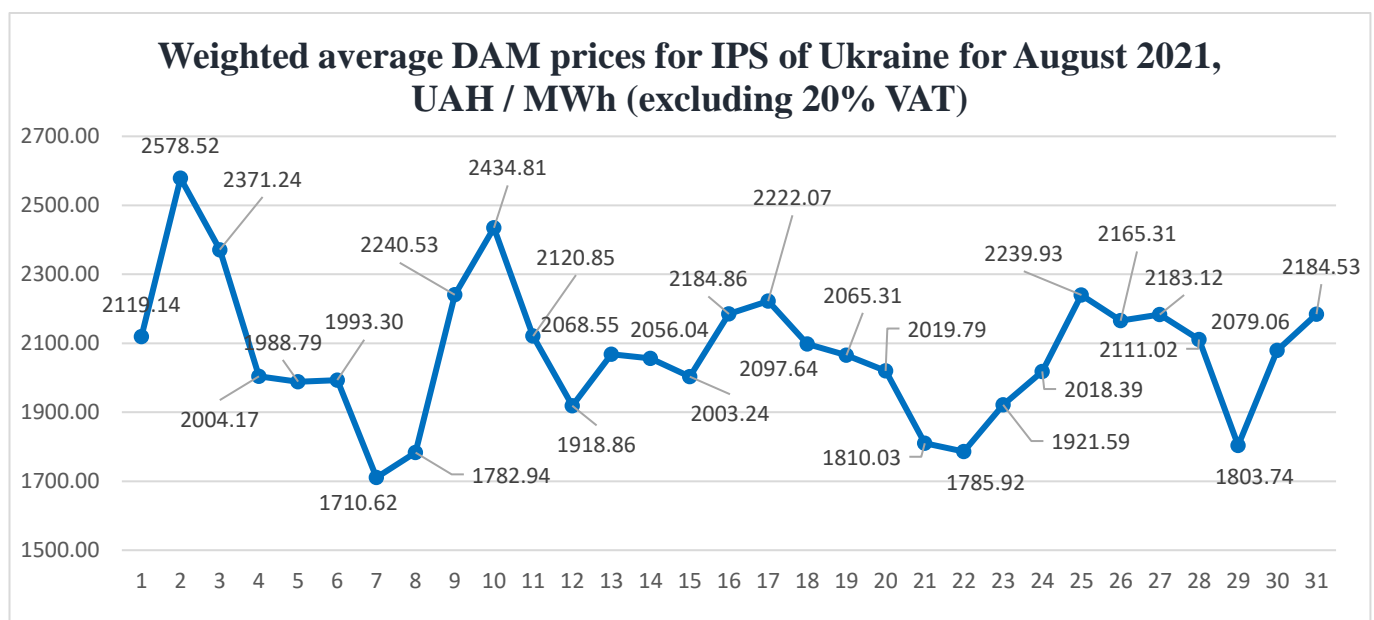
the Constitutional Court has also received a large number of scientific legal opinions in support of the constitutionality of the "green" tariff.

In the winter of 2021, the Antimonopoly Committee of Ukraine received a statement from the NGO "Antitrust League" with a request to open proceedings to recognize the "green" tariff - illegal state aid, which must be stopped because of its inadmissibility. The Antimonopoly Committee has not yet opened proceedings in this regard. EUEA, together with leading associations, sent its argumentations to the Antimonopoly Committee that there were no characteristics of state aid in the state mechanism for supporting renewable energy, and gave examples of European practices.

Details of the constitutional proceedings against RES can be found in the previous monitoring at the following link: <https://cutt.ly/0WIJPAV>

Weighted average prices of DAM (day-ahead market) for IPS (Integrated Power System) of Ukraine for August 2021

The weighted average price of electricity for August DAM for IPS of Ukraine was **UAH 2073.67 or EUR 65.24 / MWh** (converted according to the official exchange rate of the NBU as of September 8, 2021).¹¹



¹¹ <https://www.oree.com.ua/index.php/indexes>

The average price for electricity in the period from 15.08.2021 to 07.09.2021 in neighboring countries:

- Romania - 103.05 Euro / MWh
- Hungary - 110.54 Euro / MWh
- Slovakia - 103.77 Euro / MWh
- Poland - 91.87 Euro / MWh¹²

Legislative initiatives for the period from August 1 to August 31, 2021, affecting the activities of RES producers

An overview of legislative initiatives affecting the activities of RES producers has been prepared by the EUEA Energy Adviser - [IMEPOWER](#).

Read: <https://cutt.ly/dWKaHj4>

Top news of the RES sector for June-August 2021

Laws, regulations, appointments for June-August 2021:

1. Draft Law №5009. On August 19 - President of Ukraine Volodymyr Zelensky signed the law (Bill № 5009 of February 3, 2021), which provides for the possibility of developing land management projects without obtaining permission from local authorities, the application of the principle of tacit consent, introduction of a "single window" mechanism for the construction of energy infrastructure (required for connection), cancellation of a number of agreements on land issues with local authorities, and, importantly for the wind energy sector, the draft law extended the validity of the signed Technical Conditions until 31 December 2022, provided that the wind farm project has a Pre-PPA, signed by December 31, 2019. This amendment fixes an issue where the Pre-PPA and Specifications had different expirations. [Details...](#)
2. The Draft Law №5600 on July 1, 2021 passed the first reading, and introduces an excise tax of 3.2% on electricity generated from renewable sources. This Draft Law

¹² <https://www.oree.com.ua/>

violates the signed Memorandum of Understanding between the Government of Ukraine and the leading RES associations, as well as the Law № 810-IX. [Details...](#)

3. On August 11, 2021, at a meeting, the Cabinet of Ministers adopted the Resolution developed by the Ministry of Energy, which provides electricity tariff reduction for the population - up to UAH 1.44 /kWh, with consumption up to 250 kWh per month. The tariff for monthly consumption of more than 250 kWh will be UAH 1.68/kWh. The new rules will apply from October 1, 2021. It will be recalled that earlier, on December 28, 2020, the Cabinet of Ministers abolished the preferential electricity tariff of UAH 0.90 kWh for the population for the first 100 kWh and set a fixed price for household consumers at UAH 1.68/kWh from January 1, 2021. [Details...](#)
4. The Ministry of Energy has developed and submitted for public discussion the Draft Law "On Amendments to Certain Laws of Ukraine on Stimulating the Production of Electricity from Alternative Energy Sources on a Market Basis."

The Draft Law provides for the right of producers of electricity from alternative energy sources to leave the balancing group of the guaranteed buyer and freely sell electricity on the market with the possibility of obtaining a surcharge in the form of the difference between the established "green" tariff or auction price and the market price, improving the auction model of support in accordance with world best practices. [Details...](#)

5. The Ministry of Energy has published a new draft Law of Ukraine "On Amendments to Certain Laws of Ukraine on the Development of Energy Storage Systems".

The draft act provides for the definition of legal, economic and organizational principles of operation of energy storage systems in the electricity market, improvement of the tender procedure for the construction of new generating capacity and implementation of demand management measures, introduction of a new ancillary service - services to ensure the availability of a reserve of generating capacity to maintain the balance of capacity and energy in the IPS of Ukraine. Comments and suggestions to the Draft Law can be submitted within a month from the moment of publication. [Details...](#)

NEURC

- NEURC approved [draft amendments](#) to the Code of the transmission system for the operation of the energy storage system. The relevant decision was made at a meeting of the Regulator on June 9. According to the proposed changes, the NEURC proposes to consider the term "energy storage system" in a number of terms, giving energy storage system the opportunity to act on a par with other entities (generating capacity, etc.). [Details...](#)
- On June 16, 2021, the NEURC approved the [Report](#) of the system operator “NPC “Ukrenergo” on the assessment of compliance (adequacy) of generating capacity in 2020, which analyzes several scenarios for the development of the Ukrainian energy system, which provides for the partial replacement of coal-fired power plants for generation from RES, as well as the construction of at least 1 GW of highly maneuverable capacity and 0.5 GW of electricity storage systems. [Details...](#)
- On September 2, 2021, the Resolution of the NEURC №1457 of September 1, 2021 ("Resolution") entered into force on changing the procedure for obtaining a "green" tariff. Changes to the order indicate that if the company applies for a "green" tariff after the expiration of the technical conditions (that is, after recent changes to the legislation, the technical conditions for wind projects are valid until December 31, 2022), then such "Applicant" must in addition to the standard list of documents provide a copy of the act of interconnection or a copy of the notice of interconnection services. [Details...](#)
- DECREE OF THE PRESIDENT OF UKRAINE №452/2021 On the decision of the National Security and Defense Council of Ukraine of July 30, 2021 "On measures to neutralize threats in the energy sector." The Presidential Decree puts into effect the decision of the National Security and Defense Council, among the list of measures, in particular, is to submit to the Verkhovna Rada by October 31, 2021 the Draft Law on the possibility of leaving the balancing group; by December 31, 2021 to develop criteria for assessing the eligibility of state aid for environmental protection and energy; develop a procedure for transition to economically justified electricity prices for household consumers and more. [Details....](#)

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