



Analytical report

Renewable energy in Ukraine:
production, investments, and
prospects

BDO in Ukraine
2025



In 2025, Ukraine's energy is operating stably, but remains extremely vulnerable due to constant hostile shelling, especially in frontline regions such as Kharkiv, Sumy, Zaporizhzhia, and Kherson. During the presentation of the government's action plan, Minister of Energy Svitlana Grynchuk emphasized that the system is fragile and vulnerable, despite the restoration of a significant part of the infrastructure. She highlighted that the state of the power system is vulnerable to numerous attacks on power generation, transmission, and distribution facilities, which could lead to disruptions in energy supply.

Source: [Ukrinform](#)

Concurrently, the energy sector is undergoing a robust recovery, largely attributable to the concerted efforts of energy companies, emergency response teams, and international partners.

By 2025, 1.5 GW of generation capacity had been restored, and plans were in place to add an additional 1 GW of capacity. EUR 1.2 billion in donor funds was raised to support the energy infrastructure.

Source: [Government portal](#)

Despite these achievements, the renewable energy sector faces a number of challenges, including:

- ▶ The need to protect energy facilities from enemy attacks
- ▶ Restoration of destroyed facilities
- ▶ Attracting investment
- ▶ Ensuring energy security.

This report provides a comprehensive overview of the current state of Ukraine's renewable energy sector, emphasizing its achievements, challenges, and prospects for development in the context of the war.

In this report, experts of BDO in Ukraine have prepared an overview of the Ukrainian renewable energy market and provided key forecasts for its further development.

Note: Information is accurate as of August 2025.



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Number of electricity producers

According to the NEURC, as of 17 July 2025, there were 2,427 electricity producers registered. Solar power plants account for the largest share - 2,099, followed by hydroelectric power plants - 196, and wind power plants - 51. The “Other” category comprises biogas plants, gas-electric generator plants, and biomass processing complexes, with a total of 81 stations.

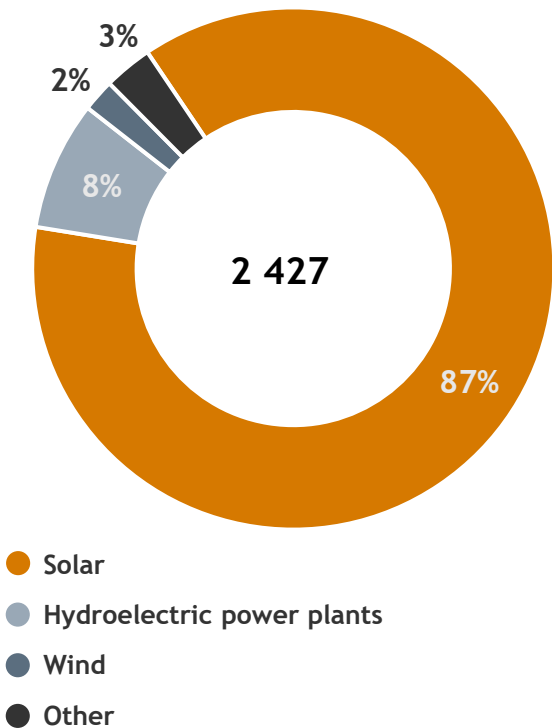


Fig. 1. Number of electricity producers from alternative sources by type of generation in 2025, %

Source: Ukraine’s National Energy and Utilities Regulatory Commission (NERC)



When analysing the geographical distribution of solar power producers, a trend can be observed depending on the location of the region. In the northern and eastern regions, solar power stations have seen a decline in popularity due to heightened military risk. In the western and southern regions, demand is notably higher. The Dnipropetrovsk and Kyiv regions are exceptions to this general trend due to high business activity and increased demand for electricity.

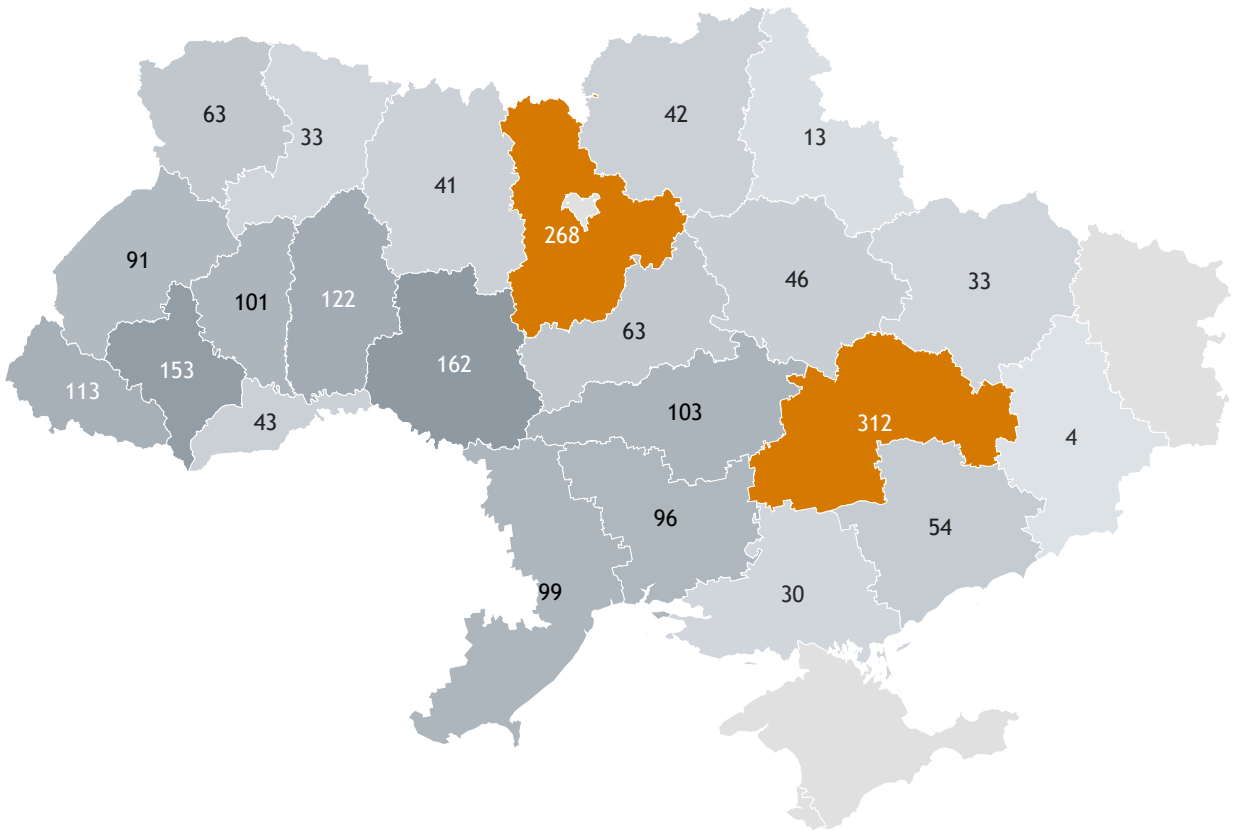


Fig. 2. Geographic distribution of solar power producers in 2025, number of stations

Source: Ukraine’s National Energy and Utilities Regulatory Commission (NERC)



Foreign trade in solar panels

Ukraine’s primary imports of solar panels are intended for use in the construction of power plants. The peak of imports in physical terms fell in 2019 and amounted to 253 thousand tons. In 2019, the “green” tariff system in Ukraine underwent a period of transition. During this time, the system maintained operational stability, attracting substantial investment. Concurrently, the legislative framework was established to facilitate a transition to a more competitive auction mechanism in the future.

Since onset of the full-scale invasion, there has been a steady rise in demand for solar panels.

As at 31 May 2025 (5 months), 53 thousand tons of solar panels were imported, indicating the likelihood of sustained growth in import volumes.

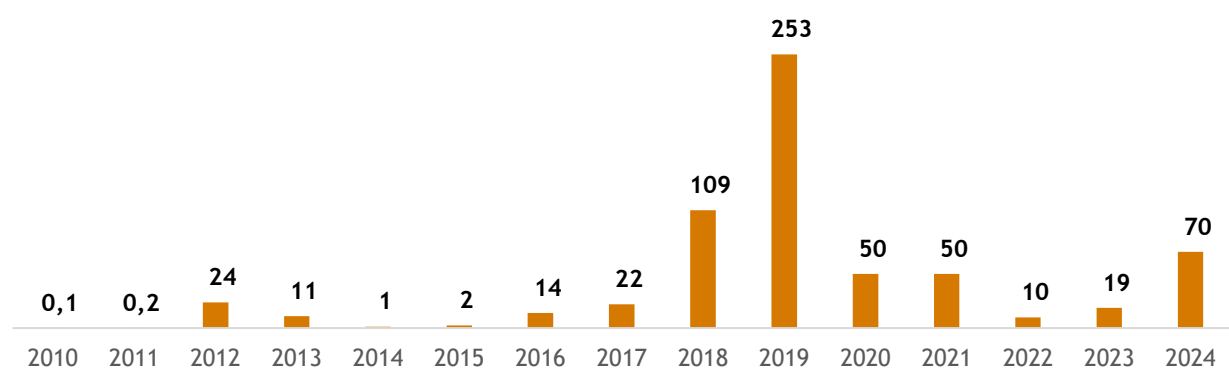


Fig. 3. Dynamics of solar panel imports in physical terms, thousand tons

Source: State Statistics Service of Ukraine



Among partner countries, China is the primary supplier of solar panels to Ukraine, accounting for 99.69% of total imports. Over the past 15 years, exports of solar panels have totaled 3,500 tons.

In monetary terms, there has been a trend toward a more than 20-fold decrease in the cost of imported solar panels over the past 15 years (from USD 115,000 per ton of panels in 2010 to USD 4,000 per ton in 2024). Over the past 15 years, a total of USD 4.3 billion worth of solar panels have been imported, while USD 84 million worth have been exported.

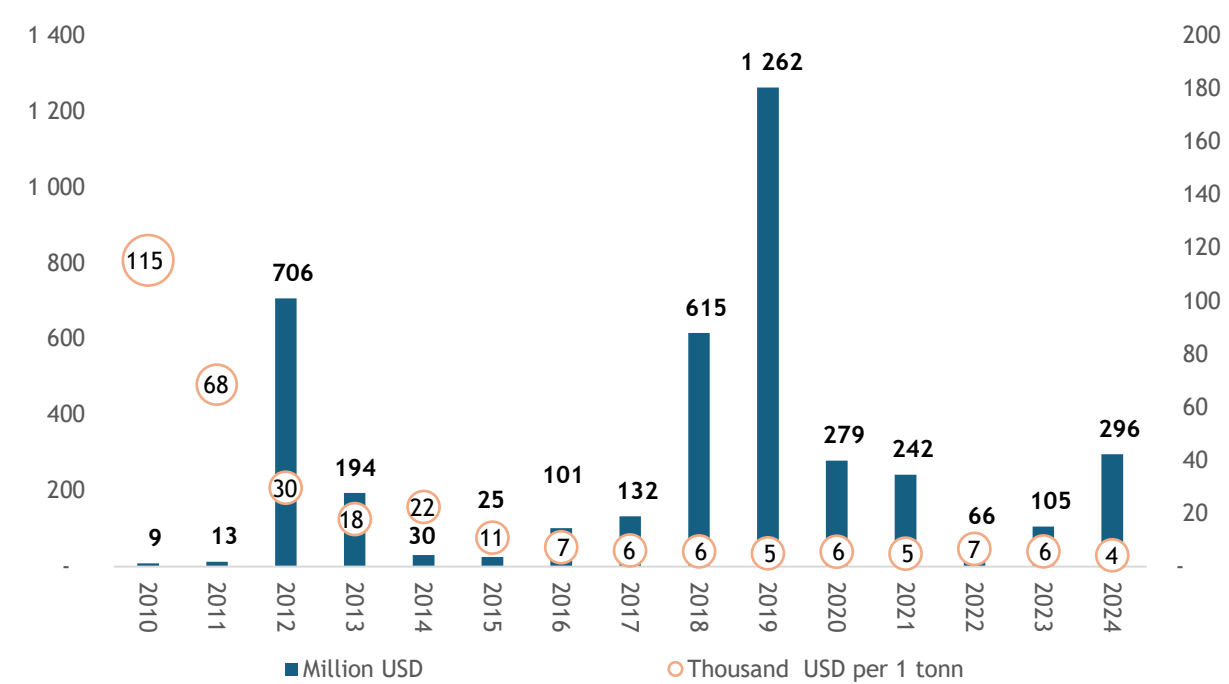


Fig. 4. Dynamics of solar panel imports in monetary terms, million US dollars.

Source: State Statistics Service of Ukraine



Green tariff

The development of the green tariff in Ukraine began in 2009 with the passage of legislation that guaranteed high fixed prices for electricity generated from renewable sources. This mechanism, which is among the most generous in Europe, was a significant factor in attracting substantial investments, particularly in solar and wind energy. It operated on a “pay and forget” principle, providing stable, euro-pegged tariffs until 2030.

The period between 2017 and 2019 saw the most significant surge in solar power plant installations. Since that time, the green tariff system for new large-scale projects has been replaced by auctions, while it continues to operate for private households. In 2025, the green tariff rate for private solar power plants is set at 6.30 UAH/kWh (excluding VAT) and will remain in effect until 31 January 2029. Despite the reduction in the tariff, the state guarantees its payment, which enables the development of renewable energy even in the difficult conditions of war and contributes to the country’s energy independence.

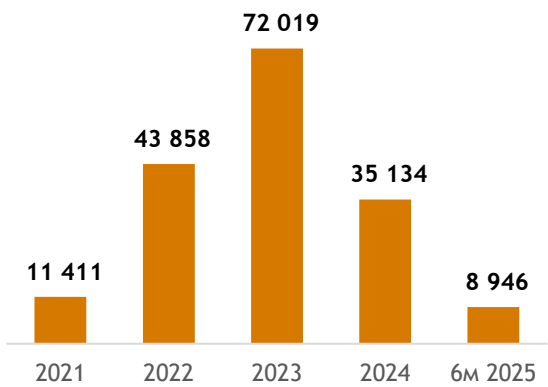


Fig. 5. Dynamics of electricity purchased under the green tariff, thousand MW

Source: Guaranteed buyer

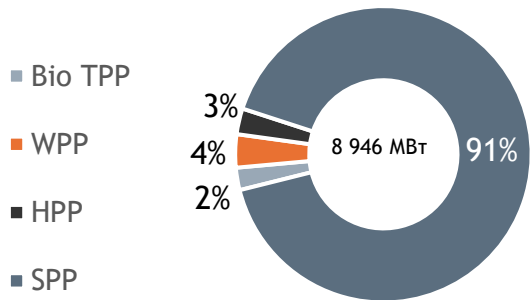


Fig. 6. Structure of purchased electricity under the green tariff for 6 months of 2025, thousand MW

Source: Guaranteed buyer



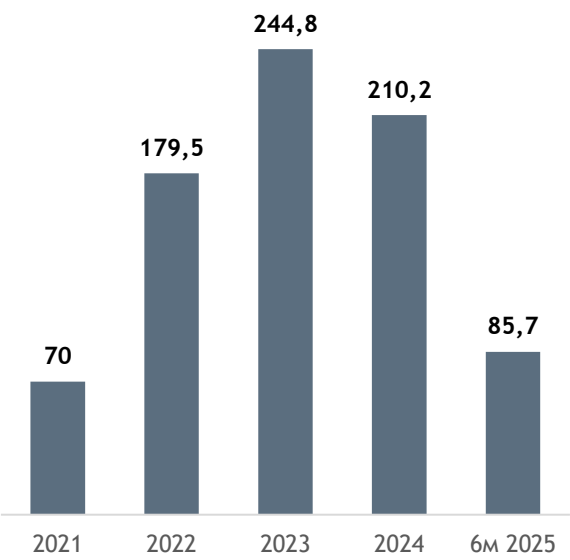


Fig. 7. Dynamics of settlements with producers under the green tariff, billion UAH

Source: Guaranteed buyer

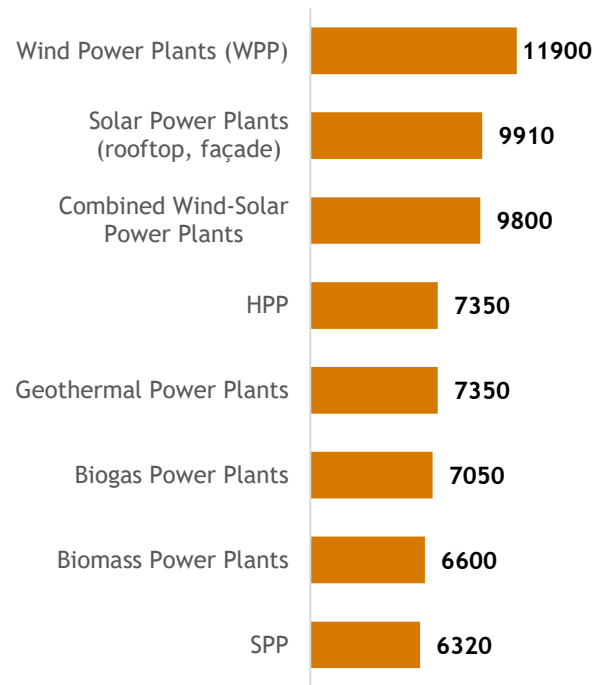


Fig. 8. Structure of installed capacities by households and energy cooperatives by installed capacity during 2014-2025, thousand kWh

Source: Ukraine's National Energy and Utilities Regulatory Commission (NERC)



Bank lending

From 1 June 2024 to 25 May 2025, Ukraine's banking system provided active support for business projects focused on restoring and developing energy infrastructure. This was driven by a growing need to decentralise energy supply and increase the resilience of the energy system. During this period, 4,500 applications were received from businesses for a total amount of UAH 86.4 billion.

Despite high demand, the volume of financing, including loans granted and credit lines opened, amounted to UAH 18.2 billion. This indicates a significant discrepancy between business demand and the projects financed, which may be due to selection criteria, risks or restrictions imposed by banks.

As of the end of May 2025, the total gross portfolio of loans provided to legal entities for energy needs amounted to UAH 11.8 billion. This reflects the total debt amount, considering repayments, and is a vital indicator of the portfolio's stability and dynamics.

Since June 2024, the total generation capacity financed by banks has exceeded 705 MW. The distribution of investments by technology is as follows:

- ▶ **Gas piston cogeneration plants:** 262 MW — the most popular direction, focusing on combined heat and power generation.
- ▶ **Solar power plants (SPP):** 249 MW – a significant share, indicating high interest in renewable energy sources.
- ▶ **Diesel and petrol generators:** 130 MW – remain relevant for providing backup power.



The projects are funded in 21 regions of Ukraine, confirming their importance for the decentralisation of the energy system at the national level.

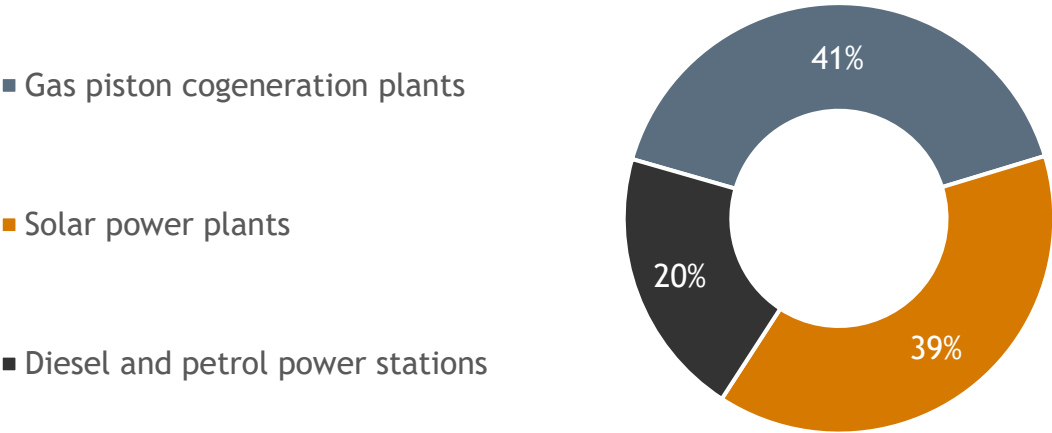


Fig. 9. Segmentation of lending to the energy sector by type of generation from June 2024 to May 2025, %

Source: NBU

Furthermore, banks proactively offered loans to individuals for energy requirements.

Since June 2024, a total of 7,980 loans have been granted, amounting to UAH 1.2 billion.

For May 2025, a total of 616 loans were granted, amounting to UAH 110 million.

The gross loan portfolio for individuals amounts to UAH 962 million, demonstrating growing demand among the population for individual solutions for energy independence.



Auction model and technology prioritisation

The CMU’s order on auctions establishes the framework for a transparent, balanced system that will support renewable energy sources in Ukraine. The document includes quotas for supporting alternative energy for 2025, a schedule of auctions for this period, and indicative forecasts for annual quotas for 2026-2029.

The maximum price offer of an auction participant for 2025 has also been determined for electric power facilities or construction stages (start-up complexes) of electric power facilities that generate electricity from:

- ▶ Solar radiation energy or wind energy — 8 euro cents per 1 kWh
- ▶ Other types of alternative energy sources (except solar energy and wind energy) – 12 euro cents per 1 kWh.

The Ministry of Energy has been assigned the responsibility of conducting an auction with the participation of the Joint-Stock Company Prozorro.Sale.

This is a key component of energy policy that will facilitate increased access to green generation in regions with significant demand, stimulate investment and mitigate long-term energy security risks.

The total annual quota for 2025 is 330 MW, with 33 MW allocated to solar power plants (SPPs), 250 MW to wind power plants (WPPs), and 47 MW to other sources (biomass, biogas, small hydropower plants, etc.). Priority is given to regions on the left bank of the Dnipro River, where consumption is high, while generation remains mainly in the west.

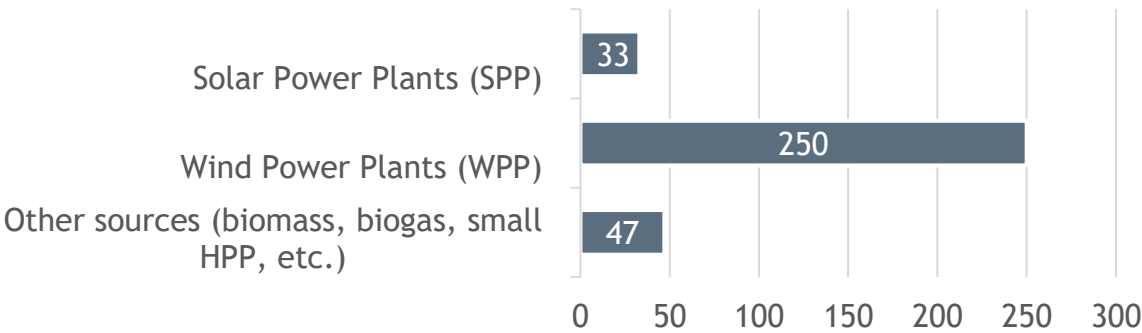


Fig. 10. Distribution of green energy support quotas for 2025, MW

Source: Ministry of Energy

In contrast, the planned annual quota for 2029 is 400 MW, with wind energy accounting for the largest share of 290 MW. The initial focus will be on establishing, within the parameters of a designated lot, the technical specifications (characteristics) of energy storage facilities to be installed at an electricity facility or during the construction of a power plant, for which a business entity may be eligible for support.

The National Action Plan, which is valid until 2030, sets out the total consumption of each renewable energy source in Ukraine that is expected to be achieved to meet the mandatory indicative targets. The strategic plan for consumption by technology for the period 2020-2030 is as follows:

- ▶ Solar energy (SPP): from 6,872 MW to 12,200 MW (+77.5%).
- ▶ Onshore wind energy: from 1,314 MW to 6,214 MW (+372.9%).
- ▶ Bioenergy facilities (biomass and biogas): from 210 MW to 876 MW (+317.1%).

However, for hydroelectric power plants, it is planned to reduce the volume of use from 4,824 MW in 2020 to 4,728 MW in 2030 (-2%).



National equipment manufacturers

On 17 May 2024, Friendly Wind Technology commissioned a new wind turbine production facility in Zakarpattia. According to the Ukrainian Wind Energy Association (UWEA), the company plans to produce up to 20 wind turbines per year, with a capacity ranging from 4.8 MW to 5.5 MW. It is currently the only national manufacturer of multi-megawatt wind turbines.

The company's project portfolio includes plans to construct over 500 MW of capacity.

According to the UWEA, a significant number of wind farm construction projects are currently under consideration in Zakarpattia. Projects are also underway in Volyn, Lviv, Rivne, Zhytomyr, Odesa, and Mykolaiv regions.

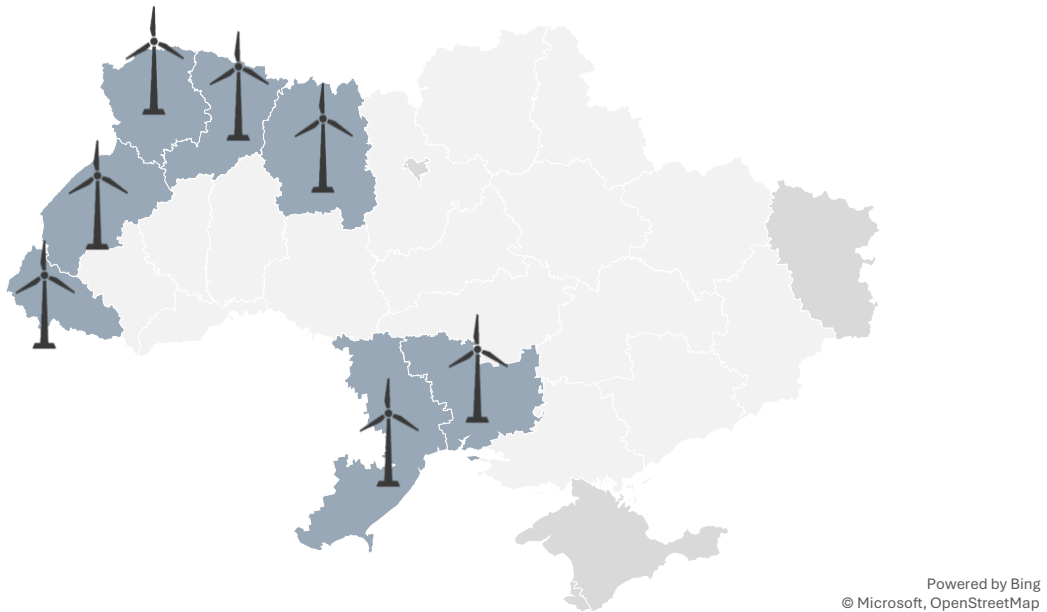


Fig. 11. Geographical distribution of wind farm construction projects

Source: UWEA

KNESS Group is an international group of companies founded in Ukraine. Since 2009, it has specialised in developing technologies and implementing renewable and traditional energy projects. The company has a strong international presence, with locations in Ukraine (Vinnytsia), as well as in Latvia and Poland.-\

Since 2015, the company has specialised in manufacturing stationary metal structures for mounting PV modules, supports for substation equipment, power collection cabinets, and frame-modular buildings for electrical engineering purposes. Since 2016, the company has specialised in the serial production of centralised inverter equipment for industrial photovoltaic stations. The production utilises advancements from the KNESS RnD Centre, being the Group's in-house innovation hub.

KNESS's manufacturing facilities encompass an area of 2,672 square metres. Support structures and inventors have facilitated the manufacture of 258 solar power stations and 13,000 low-voltage devices.

Private investors

Notus Energy

The German company Notus Energy has been actively developing renewable energy projects in Ukraine since 2019. Its primary project is a 300 MW wind farm in the Odessa region. The first phase, with a capacity of 120 MW, is ready for construction, and the entire plant is expected to be commissioned in the medium term. The project involves the installation of approximately 50 wind turbines, which will ensure a stable supply of electricity to the southern region of Ukraine.

In September 2023, Notus Energy signed a memorandum with NPC Ukrenergo and other state authorities on the development of renewable energy in the 30-kilometre exclusion zone around the Chernobyl Nuclear Power Plant. This project involves the use of existing infrastructure to develop new energy facilities, which will contribute to the region's restoration and sustainable development.

The total investment amounts to EUR 452 million.

Elementum Energy

Elementum Energy, founded in 2019, is the largest foreign investor in Ukraine's renewable energy sector. The company owns a network of 29 stations (solar and wind power plants) with a total capacity of 636 MW. Its annual production exceeds 946 thousand MWh, providing electricity to more than 790 thousand households and avoiding approximately 727 thousand tonnes of CO₂ emissions annually.

In December, the company acquired a project to build a 200 MW wind farm in west of Ukraine, within the Lviv, Ternopil and Rivne regions. The total investment in the project exceeds EUR 300 million. This station is expected to generate approximately 700 GWh of electricity per year, sufficient to meet the energy requirements of approximately 600 thousand people.

In addition, the company is actively developing other projects, including the Lyman and Dunayska wind farms, which will add more than 200 MW of capacity to the national power grid.

The company's total investment in Ukrainian projects exceeds EUR 1.5 billion.

European Bank for Reconstruction and Development (EBRD)

The EBRD is one of the largest international investors in Ukraine, actively supporting the restoration of energy infrastructure and the development of renewable energy.

In September 2024, the EBRD launched a EUR 700 million Energy Security Support Facility (ESSF) to finance decentralised energy supply projects. In July 2025, the EBRD, in collaboration with the European Commission, unveiled the Ukraine Renewable Energy

Risk Mitigation Mechanism, aimed to attract up to EUR 1.5 billion in investments in renewable energy in Ukraine, which will enable the implementation of projects with a total capacity of up to 1 GW.

Since the start of Russia's full-scale invasion of Ukraine in February 2022, the EBRD has mobilised over EUR 6.2 billion in various sectors, including energy, transport and infrastructure.

[European Union \(EU\)](#)

Within the Ukraine Investment Framework, the EU is helping to attract private investment in green energy, digitalisation, agribusiness and other strategic sectors.

In 2024, the EU approved an energy rescue plan that provides up to EUR 600 million in funding for critical energy projects in the public and private sectors, including the restoration of heat supply and the introduction of renewable energy sources.

Furthermore, the European Commission has announced a new support package for Ukraine in 2025, with the aim of strengthening the energy system and accelerating investment in renewable energy. This will add up to 1.5 GW of new capacity, increasing the total share of RES in Ukraine's energy balance by 25%.

[DTEK and Octopus Energy](#)

In 2025, DTEK, Ukraine's largest private energy company, in partnership with British company Octopus Energy, launched the RISE (Resilient Independent Solar Energy) initiative. This initiative is aimed at developing renewable energy in Ukraine. The project involves the attraction of funding from private investors, energy companies, UK and EU government agencies, and international financial institutions.

Kraken from Octopus Energy is responsible for the technical support, with the aim of optimising energy consumption and facilitating the sale of surplus energy back to the grid.

The primary objective is to raise EUR 100 million in funding to support 100 solar energy projects with battery storage in Ukraine over the next three years.

[Ukraine Energy Support Fund](#)

The Fund was established to restore and modernise Ukraine's energy infrastructure in the wake of the war's devastating effects. The main financing mechanisms are loans, grants and assistance from international donors.

As of July 2025, the Ukraine Energy Support Fund had accumulated over EUR 1.15 billion from 33 donors in 22 countries. These funds are being used to restore and modernise energy infrastructure, including the restoration of 2 GW of generating capacity.



Ukraine Facility Pillar II (Ukraine Investment Framework)

The Fund for Ukraine is a key instrument in the European Union’s strategy to address the multifaceted challenges facing Ukraine as a result of Russia’s aggressive war. This special support mechanism, which came into effect on 1 March 2024 and covers the period from 2024 to 2027, offers up to EUR 50 billion in stable and predictable financial support. The financing mechanism includes guarantees, loans, grants and international donations.

The total investment volume of Pillar II for 2024-2025 is EUR 11.8 billion.

The southern and central regions of Ukraine (the Odesa and Mykolaiv regions) are the most promising for investment. This is due to the large number of solar and wind projects being implemented in these areas, thanks to the favourable natural conditions for such technologies.

It is also worth mentioning the western regions. For instance, the Lviv, Ternopil, and Rivne regions have predominantly attracted investments for the development of wind power plants.

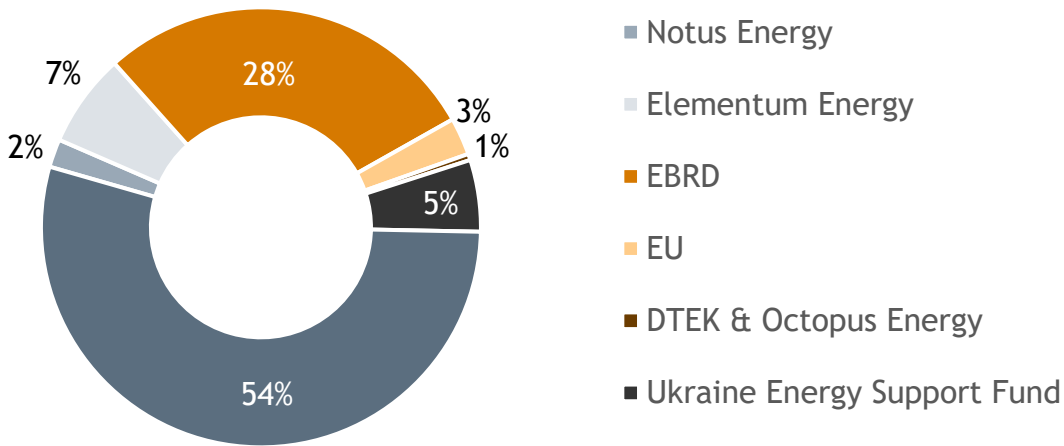


Fig. 12. Structure of investment volumes in renewable energy from private investors, %



Summary

Summary of the analysis of Ukraine's energy sector, 2025

► Restoring stability

- 1.5 GW of generating capacity has been reinstated, with plans to restore a further 1 GW.
- Over EUR 1.2 billion in donor funds have been mobilised.
- Priority: **strengthening critical infrastructure** and decentralising the energy system.

► Bank financing and investment dynamics

- **4,500 applications** worth UAH 86.4 billion were received; UAH 18.2 billion was financed.
- Capacity of supported projects: **705 MW** (solar power plants, wind farms, cogeneration).
- **21 regions** are participants in energy decentralisation.
- **Strategic plans (National Action Plan)**
- Target for 2030:
 - SPP: +77,5% (to 12,2 GW)
 - WPP: +372,9% (to 6,2 GW)
 - Bioenergy: +317%
- Focus: energy storage technologies, **auction-based support model** (330 MW quota for 2025).

► Role of private investors

- EBRD – EUR 6,2 billion (including EUR 700 million through Energy Security Facility).
- EU – EUR 600 million for 1,5 GW of new facilities.
- Elementum, Notus, DTEK, Octopus – over EUR 2 billion of investments.

Conclusions of the Natural Resources and Energy Industry group

- in 2025, Ukraine continues to develop **renewable energy** as the basis for energy security.
- **Priorities – decentralisation, storage technologies, investments.** SPP, WPP and bioenergy – key drivers of growth.
- Development of the industry strengthens the **resilience of the economy** and the **independence of the energy system** in the face of external challenges.

INDUSTRY GROUP “NATURAL RESOURCES AND ENERGY”



Vladyslav Puhach
Leader of the Industry
group, Lead Auditor



Mykhailo Oliinyk
Member of the Industry
group, Audit Manager



Anna Matiushko
Member of the
Industry group,
Auditor



Dmytrii Prokopenko
Member of the Industry
group, Auditor



Dmytro Chubin
Investment Analyst

✉ info@bdo.ua

🌐 www.bdo.ua



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