

State and prospects of wind energy development in the EU member states

The development of the EU energy market is driven by a number of key factors, including climate change, limited oil and gas resources, their high costs and unpredictable supply of traditional fuels. Continuous progress in the field of renewable energy development, in particular, wind energy not only leads to a reduction in CO₂ emissions, ensures a clean environment and preserves biodiversity, but also assures energy security and sustainable economic development. Besides, the development of wind energy in the EU leads to a significant decrease in the dependence of the economies of the EU Member States on the import of energy resources.

Wind energy production in the EU is growing steadily. In 2018, 313 TWh of wind energy was produced, and in 2023 the amount of generated energy reached 466 TWh. Wind energy met 12% of the total electricity demand in the EU in 2018, and in 2023 it covered 19% (Fig. 1) [1].

According to the forecast contained in [1], wind farms with a total capacity of 200 GW are expected to be commissioned between 2024 and 2030 at an average rate of 29 GW per year (Fig. 2). However, to meet the EU's

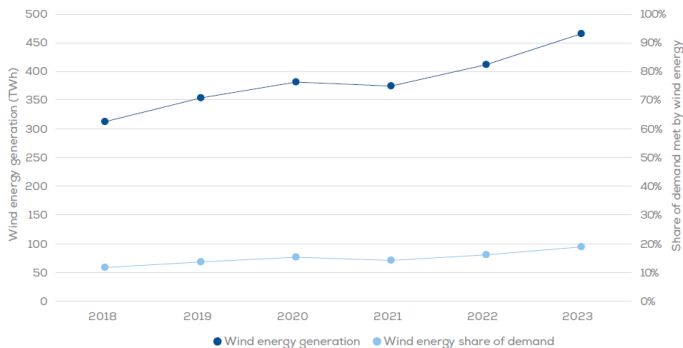


Fig. 1. Production and consumption of wind electricity in the EU

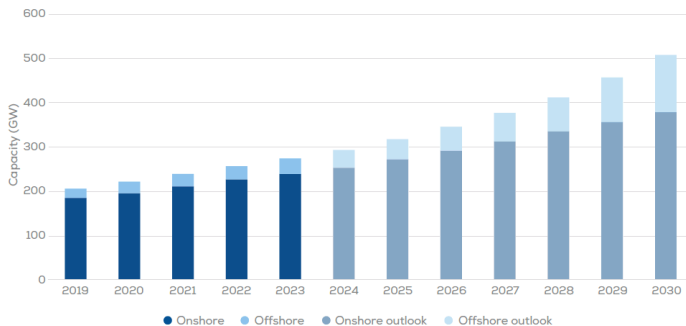


Fig. 2. Installed capacity of wind farms in the EU with a forecast until 2030

energy and climate targets by 2030, 33 GW of capacity per year between 2024 and 2030 must be commissioned. Understanding the possible risks, the EU pays special attention to the development of measures that will accelerate the development of wind energy.

In response and in recognition of the critical role of wind energy in achieving the EU's climate and energy goals, the European Commission presented the Wind Energy Package. The Package proposes a Wind Power Action Plan which sets out actions to strengthen Europe's wind energy industry. This plan is aimed, in particular, at accelerating the implementation of clean energy technologies and strengthening activities to achieve a 42,5 % share of RES in the EU's overall energy consumption by 2030.

Let's consider the main provisions of this Plan.

One of the priority areas should be the acceleration of the deployment of wind installations due to increased predictability and accelerated issuance of permits.

An important factor that will lead to the stimulation of the development of wind energy in the EU is the improvement of the auction design, which consists in improving the auction support model, namely in the inclusion of objective, transparent and non-discriminatory criteria and measures to maximize the level of project implementation.

To accelerate the flow of investments in wind energy projects, the European Commission's plan includes simplifying access to financing, in particular through the EU Innovation Fund.

Also, the European Commission will strengthen the dialogue with investors regarding the attractiveness of investments in the wind energy sector and calls on EU countries to fully use the flexibility provided by the state aid rules for the industry.

The European Commission will work on facilitating the access of EU producers to foreign markets, protecting the domestic market from unfair competition, threats to security and public order, as well as strengthening standardization in the wind energy sector.

By the middle of 2024, the European Commission plans to promote the launch of industry training centres (net-zero industry skills academies) for improving the qualifications and retraining of employees.

It is noted that the European Commission will work with EU countries and representatives of the wind energy industry on the development of the European Wind Charter to improve incentives to maintain the industry's competitiveness.

In addition, the European Commission expects that offshore wind energy will make a significant contribution to the achievement of the EU's climate and energy goals in the coming years. It is noted that an average of almost 12 GW of offshore wind turbines need to be installed every year.

As for the state of development of wind energy in Ukraine, today the share of wind energy in the total balance of the national renewable energy sector is 21.7 % and remains the second largest one after the share of solar energy. In general, the total installed capacity of the RES sector in Ukraine is 10.8 GW.

At the same time, as of the end of 2023, only 583.8 MW of wind power plants directly generated electricity, as 71% of wind power still remains in temporarily occupied territories and does not supply “green” electricity to the energy system of Ukraine [3].

At the same time, the development of renewable energy and, in particular, wind energy remains one of the main national priorities in the post-war reconstruction of Ukraine in the context of ensuring energy security and economic growth. In this perspective, the experience of the EU can be extremely relevant.

References

1. Giuseppe Costanzo, Guy Brindley (2024). Wind energy in Europe 2023 Statistics and the outlook for 2024–2030. WindEurope.
2. European Commission (2023). European Wind Power Action Plan, Brussels, 24.10.2023, COM(2023) 669 final.
3. Розвиток вітроенергетики в Україні залежить від вирішення фінансових проблем галузі.
https://glavcom.ua/new_energy/news/rozvitok-vitroenerhetiki-v-ukrajini-zalezhit-vid-virishennja-finansovikh-problem-haluzi-investori-987360.html#google_vignette