

THE EVOLUTION OF ROMANIA'S SOLAR PV MARKET 2023 OVERVIEW

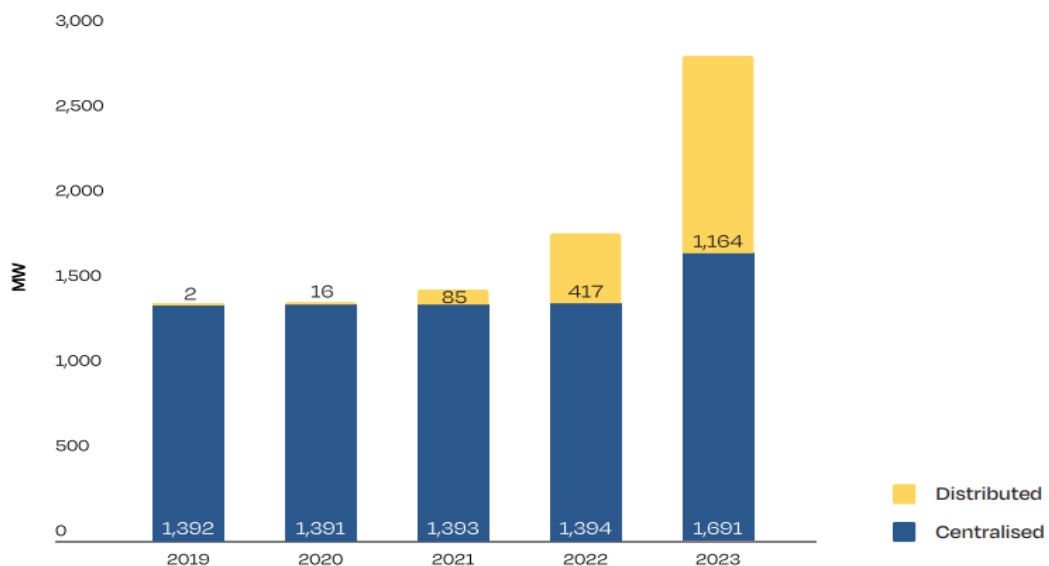
IRENE MIHAI
POLICY OFFICER

Overview of solar PV developments

Following a period of lull, Romania has achieved in 2023 a significant milestone in its renewable energy journey – over 1 GW of new solar capacity installed in one year between distributed generation and utility-scale projects. The new solar installations, equating to a 308% increase compared to the capacity deployed the previous year, have set a new record high since the early 2010s' surge in renewable energy. Solar PV is now the fastest-growing power source in the country. By the end of 2023, the cumulative PV capacity – distributed and utility-scale – reached 2.85 GW, generating over 2.5 TWh, which accounted for approximately 5% of the total electricity produced. With the addition of 297 MW in utility-scale projects installed between Q1 and Q3 2023, the centralized PV capacity reached 1.6 GW, accounting for 28% of the total solar installed capacity this year (see Fig. GW 13). While this annual figure represents a significant quantitative leap relative to the capacity deployed in past years, which averaged 1 MW, the main driver of the impressive developments in the Romanian PV sector is the distributed generation segment. During the fourth quarter of 2023, the number of prosumer households, firms and institutions exceeded 80,000, totaling an installed power capacity of nearly 1.2 GW, with the residential sector accounting for over 85% of the total installations.

National targets for solar PV

With an average of 1,900 to 2,400 annual sunlight hours, Romania has significant natural potential for solar PV development. Yet, the country has not set ambitious targets for renewable energy sources, aiming for only 30.7% of its final energy consumption to come from RES by 2030. For solar, this translates into an objective of 5.05 GW, which would entail the addition of 2.2 GW to the existing capacity. The draft National Energy and



Climate Plan (NECP) submitted in November 2023 increases the RES target to 36%, which for solar would mean an increase to 8.3 GW – 5.8 GW for utility-scale projects and 2.5 GW for rooftop PV. While this is a positive step, it is not enough to align with the EU's binding objective of 42.5% RES by 2030. In the context of the European ambitions, Romania would need to aim for 44.4% RES, meaning 11.1 GW of solar - 6.1 GW for utility-scale and 5 GW for rooftop PV¹.

Drivers for solar growth

The last two years have been marked by significant legislative changes that underpinned the development of the Romanian PV sector. For utility-scale projects under 50 ha (approx. 42 MW), the permitting process was simplified in January 2023, following the 2022 removal of the requirement for prior planning documentation, which reduced the time for acquiring the necessary permits to from an average of 18 months to 6-12 months. This measure has led to a competitive timeframe, compared with similar procedures in the region. For the prosumer sector, the modification of the legislative framework has also been one of the main drivers of its impressive development². To that end, the grid connection procedures for distributed solar systems generating under 400 kW per place of consumption were streamlined in 2022, allowing all necessary documentation and permits to be obtained within a month. Another significant factor that drove the growth of the prosumers segment in Romania was the subsidy program and the fourfold increase in the funding to 610 million EUR, coupled with the possibility for prosumers with an installed capacity of up to 400 kW per consumption point to sell the excess electricity directly to their electricity supplier. Romania still has some gaps and inconsistencies in its legal framework for renewable electricity production. However, the country is making significant progress in simplifying and improving the process

Challenges

While Romania has the necessary preconditions – climate, land availability, and relatively streamlined permitting processes – for RES project development, the industry faces several legislative and structural challenges. Whereas the 2022 modification of the Land Law (254/2022) streamlined the permitting procedure for projects under 50 ha, an artificial blockage was created for larger capacities above the 50-ha threshold, as the Ministry of Agriculture and Rural Development (MARD) does not issue the necessary permits. In this sense, while it is relatively easy to develop PV plants below the 50-ha threshold, bigger projects face a more arduous process in obtaining the necessary documentation. The second significant challenge pertains to grid connection, which tends to be cumbersome due to the limited availabilities in specific areas – such as Dobrogea and Banat. Additionally, the high costs of grid reinforcement and expansion are still falling on the shoulders of investors, and some construction deadlines have been pushed back by the TSO and DSO up to 2 years.

¹ Deloitte&E3M – Renewable Energy in Romania – Roadmap to 2030 – report for RWEA&RPIA.

² Code of Good Practice for Renewable Energy in Romania, no. 2 - <https://goodpractice.rpia.ro/2023-2/>

Outlook for 2023-2027

The Romanian PV market has entered a new boom phase, driven by the current security context, the imperative of green transition, and the favorable permitting framework. As the country moves towards decarbonization and the large-scale adoption of clean technologies, the outlook for the future of PV points to sustained development. It will be supported by the availability of European funds and the emergence of new business models against the backdrop of a more mature market. However, some challenges remain, such as regulatory uncertainty, administrative barriers, market fragmentation, and grid integration issues. Therefore, for Romania to tap into its full solar potential, the market will require a stable and supportive framework that can foster innovation, investment, and competitiveness in the long term.

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