

According to Data Presented by Red Eléctrica Today

Electricity consumption in the Community of Madrid accounted for 11.1% of Spain's total in 2023

Spain reached its highest renewable quota with over half of the electricity produced by renewable sources, at 50.3%

Madrid, 21 March 2024

Electricity demand in the Autonomous Community of Madrid in 2023 stood at 27,113 GWh, representing 11.1% of Spain's total. Last year, regional electricity consumption experienced a decrease of 1.5% compared to 2022, a trend in line with that recorded in Spain as a whole.

These are some of the findings derived from the [Spanish Electricity System Report 2023](#) and the [Renewable Energy Report 2023](#), documents by Red Eléctrica that compile last year's main industry figures for our country.

According to Beatriz Corredor, president of Redeia (Red Eléctrica's parent company), "the figures for 2023 prove that Spain has consolidated its renewable leadership. This has been made possible by efforts in system operation and our extraordinary transmission grid, which have allowed our country to safely reach a share of 50% renewables in the mix. The grid is and will continue to be ready to meet the objectives of the National Integrated Energy and Climate Plan (PNIEC)."

According to documents presented by Red Eléctrica today, a total of 939 GWh were produced in Madrid in 2023, 48% of which came from renewable sources. Thus, the technology that generated the most electricity in the region was cogeneration, responsible for 44.8% of the total GWh; followed by other renewables with a 15.6% share, and photovoltaic solar power with 15.4% of the total. Completing Madrid's electricity mix are hydropower (9.7%) and renewable and non-renewable waste, each with a 7.2% share. Madrid's electricity production accounted for 0.4% of the national total in 2023.

With 50.8% of installed renewable power, Madrid's generation pool did not experience any changes in 2023, and continues to be led by cogeneration (46% of the total), hydropower (23.7%), and solar photovoltaic (13.9%). Other renewables (9.9%), renewable waste (3.3%), and non-renewable waste (3.3%) complete a 457 MW installed power, a total that has remained unchanged for four years.

The Year 2023 in Spain: Renewables Break Records

In Spain in 2023, installed solar photovoltaic power increased by 28%, bringing an additional 5,594 MW to the Spanish generation pool, the highest figure since records began. As a result, this technology now has 25,549 MW in service, representing 20.3% of the Spanish generation pool. This year-on-year increase means that our nation is second among ENTSO-E countries in terms of the highest installed solar power output (both thermal and photovoltaic).

Spain ended 2023 with more than 125.6 GW of total installed power, with renewables constituting 61.3% of this total. Thus, in 2023, the renewable production pool grew by 8.8%, thanks not only to the new photovoltaic MW mentioned, but also to the addition of 661 MW of wind power and 4 MW from other renewable sources. In Spain's national ranking, wind power is still the technology that accounts for the largest proportion, 24.5% of capacity, followed by combined cycle (20.9%), photovoltaic power (20.3%), and hydropower (13.6%), which increased its contribution by 41.1% compared to the previous year, given that 2022 was exceptionally dry.

According to the documents presented today, 2023 will also be remembered as the year when all historical renewable generation records were shattered, as over half of the electricity mix (50.3%) came from natural resources such as wind, sun, or water.

In 2023, Spain produced 15.1% more renewable energy than the preceding year, totalling 134,321 GWh. Two technologies were the main contributors to this historic milestone: wind power, leading the mix with 23.5% of the total, and photovoltaic power, which produced 33.8% more than in 2022.

As a direct consequence of the rise in renewable energy production, 2023 also witnessed the lowest CO₂ equivalent emissions (greenhouse gases): 32,045,711 tCO₂ equivalent, nearly 28% less than the previous year.

In its Spanish Electricity System Report 2023, Red Eléctrica also analyses other metrics such as developments in demand, which in 2023 were 1.9% lower than in 2022 after adjusting for employment activity and temperatures. In gross terms, electrical demand in 2023 stood at 244,665 GWh, marking a 2.3% decrease, while electricity consumption across the ENTSO-E countries experienced a 3.3% decrease compared to 2022.

Additionally, the transmission grid availability index in the Spanish mainland system reached 97.62%, closely mirroring the values recorded in the electricity systems of the Balearic and Canary Islands, which stood at 97.84% and 98.93%, respectively.