

ELECTRICITY DEMAND OF 311.3 TWh IN 2025

A NEW RECORD FOR PHOTOVOLTAIC PRODUCTION: 44.3 TWh (+25.1% OVER 2024)

THE 2025 TARGET SETS BY DM AREE IDONEE HAS BEEN EXCEEDED: 57.1 GW OF CAPACITY INSTALLED, BETWEEN SOLAR AND WIND POWER

OVER 1.7 GW IN NEW STORAGE INSTALLED IN 2025: GROWING CONTRIBUTIONS FROM LARGE-SCALE SYSTEMS

Rome, 21 January 2026 – According to data from Terna, the company that manages the national transmission grid, led by Giuseppina Di Foggia, Italian electricity consumption in 2025 reached 311.3 TWh, remaining stationary since 2024.

Last year, renewable sources covered 41% of demand, compared to 42% in 2024. This result reflects two opposing effects: on the one hand, the annual record in photovoltaic generation; on the other, hydroelectric production returning to standard levels after the record scored in 2024.

Electricity demand in 2025 showed a two-speed trend: a first part of the year with negative year-on-year variations, followed by a recovery in the second part of the year, also supported by growth in industrial consumption.

Indeed, the IMCEI Index (Monthly Index of Industrial Electricity Consumption) developed by Terna, which analyses industrial electricity use among approximately 1,000 energy-intensive industrial enterprises, recorded a recovery in the second half of the year which, despite a decline in the early months, allowed to close with a slight decrease (-0.7%).

Positive trends were recorded in the iron and steel; engineering; cement, lime and gypsum; and food sectors; while declines were observed in non-iron metals; chemicals; transportation; paper; and ceramics and glass. The first ten months of last year showed a growth of +2.6% in the IMSER Index (Monthly Services Index) which Terna publishes based on monthly electricity consumption data provided by several distribution network operators (E-Distribuzione, UNARETI, A-Reti, Edyna and Deval) and released with a two-month lag.

Regionally, electricity demand was +0.1% in the North, -0.4% in the Centre, and -0.7% in the South and Islands.

More specifically, Italy's electricity demand in 2025 was met 84.9% by domestic production in 2025, and for the remaining 15.1% by net imports. Domestic net production (268 billion kWh) increased by 2% compared to 2024. The net import-export balance decreased by 8,1% because of

lower imports and stable exports.

The combined effect of reduced imports from neighbouring countries and the substantial stability of renewable sources led to a 4.6% increase in thermoelectric generation. However, the decline in coal-fired thermoelectric production continued, falling by a further 13.5% in 2025.

In particular, the photovoltaic production (+25.1%), reached a historic new record exceeding 44 TWh, with a peak of 5.7 TWh in June (+35.6% compared to June 2024). This increase (+8,892 GWh) was due both to the positive contribution of increased operating capacity (+6,636 GWh) and to higher solar irradiation (+2,256 GWh).

After the extraordinary increase in 2024, hydroelectric returned to production levels of previous years (-21.2%).

Meanwhile, there was a more moderate reduction in wind sources (-3.3%) and essentially stable geothermal production (-0.3%). Production from stand-alone storage reached 1.5 TWh, confirming the key role of these resources in supporting the integration of renewable sources.

According to Terna, considering all renewable sources, capacity increased by 7,191 MW in Italy in 2025, amounted to 7,191 MW. As of 31 December, Italy's installed capacity totalled 83,529 MW, including 43,513 MW of solar and 13,629 MW of wind power. The 2021-2025 installation target set by the DM Aree Idonee (21 June 2024) was surpassed by 1,605 MW.

From January to December 2025, nominal storage capacity increased by 1,743 MW, including 723 MW of utility-scale. Italy has 884,404 storage installations, corresponding to 17,920 MWh of capacity and 7,362 MW of nominal power. In recent years, storage capacity in Italy has grown thanks to large utility-scale plants, supported by the Capacity Market. In September 2025, the first auction under the MACSE (Electricity Storage Procurement Mechanism) was also held, with a total of 10 GWh of storage capacity, covering 100% of the required demand. By contrast, the segment of small-scale storage systems slowed down, also due to the reduction of fiscal incentive policies that had previously supported their diffusion.

In **December**, electricity demand reached a value of 26,135 GWh, the highest since 2021 and rose by 1.8%. This result was achieved with the same number of working days, but with an average monthly temperature 0.8 °C higher than December 2024. When adjusted for calendar and temperature effects, the electricity demand increased by 2.6%. With seasonally adjusted data, the month-on-month variation remains stable (-0.1% compared to November).

Regionally, demand growth was observed across the board: +2.0% in the North, +1.8% in Central Italy and +1.4% in the South and Islands.

Demand was met for 85.7% by domestic production, and for the remaining 14.3% by net imports. Renewable sources covered 27.5% of electricity demand (compared to 32.5% in December 2024).

Net national production (22.7 billion kWh) increased by 5.5% compared to December 2024, with the following breakdown by source: thermal (+15.6%); photovoltaic (+12%); wind (-44.1%); hydro (-9.0%); and geothermal (-0.2%). The import-export balance decreased by 14.1%, due to an increase in exports (+8.7%) and a decrease in imports (-12%).

The IMCEI industrial consumption index recorded +9.5% in December 2025 compared to December 2024 with increases in iron and steel; food; transportation; and cement, lime and

gypsum; while paper; non-iron metals; engineering and chemicals declined. Adjusted for seasonal and calendar effects does not affect this change. The short-term variation is also positive (+3.4%).

The IMSER Index for October showed a positive change: +2.2% compared to October 2024.

A detailed analysis of provisional 2024 and 2025 monthly electricity demand is available in the “Monthly Report on the Electricity System”, which can be found under the section “Electric System >> Publications >> Monthly Report” at www.terna.it.

Real-time data on the operation of the national electricity system can also be found on the Terna app, available on all app stores:

<https://play.google.com/store/apps/details?id=it.terna.energia&hl=en>

<https://apps.apple.com/us/app/terna/id1458535498>