

Are battery energy storage systems needed in Italy?

Therefore, battery energy storage systems (BESS) are needed in Italy. The Italian market for BESS is growing rapidly and currently amounts to 2.3 GW but it almost exclusively consists of residential scale systems, associated with small scale solar plants, having a capacity of less than 20 kWh.

Does Italy need electricity storage?

As Italy's energy mix is increasingly composed of variable renewable energy sources, electricity storage will be needed to integrate power generated by renewables into the national grid and make it available when sun and wind energy are not accessible.

How many storage systems are there in Italy?

More in detail, 311,189 storage systems were present in Italy in mid- 2023, with a total power of 2,329 MW and a maximum capacity of 3,946 MWh. Terna (the high voltage grid operator) also holds systems totaling 60 MW in power and 250 MWh in capacity.

How many GW of battery storage will Italy have by 2050?

The remaining 3-4 GW is expected to come from utility-scale systems. By 2050, Italy aims to achieve 30-40 GW of storage capacity. There are significant regional differences in the adoption of battery storage systems across the country.

How will Italy invest in electricity storage?

Italy will promote investments in utility scale electricity storage to reach at least 70 GWh, and worth over Euro 17 bn, in the next ten years. The new storage capacity will be acquired through tenders published by Terna, the manager of Italy's high voltage grid. The next tender will be released in 2024.

How will Italy develop utility-scale electricity storage facilities?

To develop utility-scale electricity storage facilities, the Italian Government set up a scheme that was approved by the European Commission at the end of 2023. Italy will promote investments in utility scale electricity storage to reach at least 70 GWh, and worth over Euro 17 bn, in the next ten years.

Publishing storage system data for the first time, Terna reported Italy had around 707,000 installations at the end of October, corresponding to 11,783 MWh of capacity and 5,186 MW of nominal power, of which 864 MW was in ...

Consequently, Italy faces the imperative of deploying extensive energy storage systems to effectively integrate its vast renewable energy infrastructure. Residential storage installations in Italy are particularly sensitive to policy changes.

Since 2022, Italy has attracted strong interest from local and European investors in the energy storage business segment due to its structural needs, such as the lack of diversification in dispatchable technologies.

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Italy's NECP targets between 7.5 GW and 8.5 GW of energy storage by 2030, of which 4.5 GW is expected to come from customer-sited storage systems.²⁴ The remaining 3-4 GW is expected to come from utility-scale systems. By 2050, Italy aims to achieve 30-40 GW of storage capacity.

With the phase-out of coal, the dispatchable fleet now relies almost entirely on natural gas, which becomes a structural weakness of the country. This, coupled with the need to integrate more renewable energy, makes Italy an attractive market for energy storage investment.

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The trade association Italia Solare has analyzed data from electricity transmission system operator (TSO) Terna, revealing that standalone energy storage is the most significant new market development. As of the end of June 2024, Italy had 650,007 grid-connected energy storage systems, according to the Italian PV association Italia Solare, with ...



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