



**WHITE  
PAPER**

**THE EVOLVING ENERGY STORAGE MARKET IN ITALY**

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# THE EVOLVING ENERGY STORAGE MARKET IN ITALY

## Introduction

The Italian energy storage market is a subject of increasing importance within the European Union's renewable energy agenda. As one of the continent's leading markets for battery energy storage systems (BESS), Italy's progress offers a wealth of opportunities and insights. This relevance stems not only from the country's impressive growth trajectory but also from its potential to shape the future of renewable integration and energy resilience in Europe. Poised to overtake Germany in newly installed BESS systems by the end of 2024, Italy's progress is fueled by significant photovoltaic (PV) installations — 3.3 GW in H1 2024 alone — and the operationalization of large-scale storage projects. This momentum highlights the market's potential to reshape renewable integration across the continent and underscores Italy's increasing relevance in the European renewable energy landscape. This whitepaper explores the Italian energy storage market at three levels: macro-level analysis, micro-level insights, and market forecasts, providing a comprehensive understanding of this rapidly evolving sector.

# MARKET FIGURES AND POLICIES: A BIRD'S-EYE VIEW

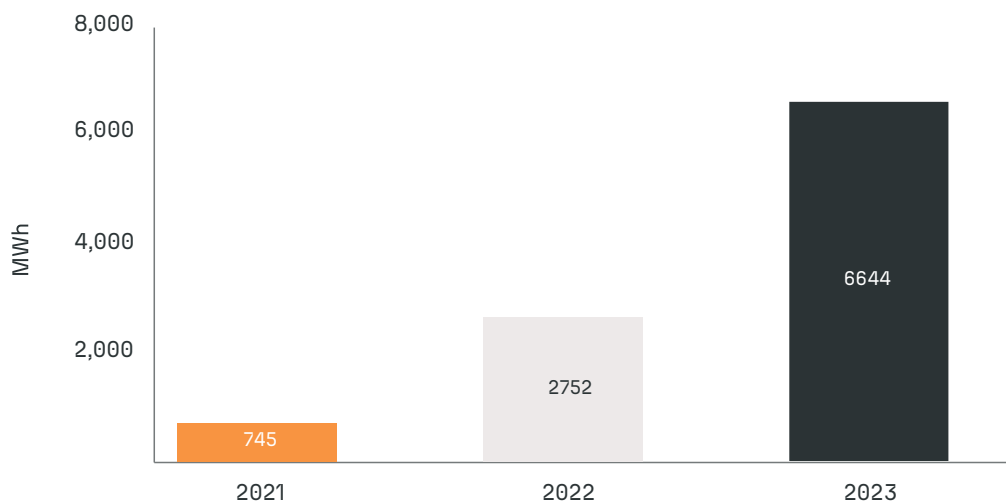
Italy is the second-largest market for BESS in the European Union, following Germany. The country's BESS deployment is notably concentrated in the northern regions, Lombardy and Veneto.

## Market Dynamics

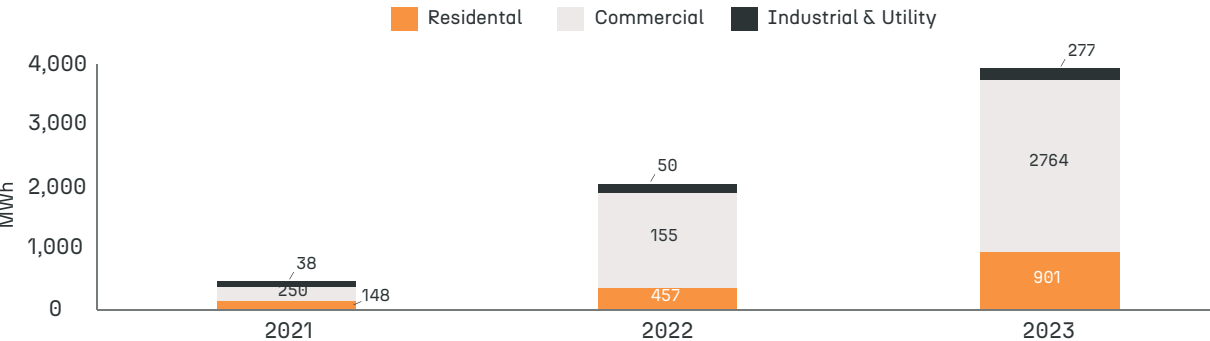
In the first quarter of 2024, Italy installed 914 MWh of BESS across all segments, a slight decline from 1,161 MWh in Q1-2023. However, the country saw a significant increase in installations during the second quarter, with 1,562 MWh deployed. This growth pattern can be attributed to several factors, including a less favorable Super-bonus scheme, more stable electricity market conditions, and an uptick in grid-scale storage projects that were connected to the grid in Q2.

While the speed of residential BESS installations is expected to slow somewhat in 2024, the operationalization of large-scale storage systems, coupled with the country's rapid PV expansion (with 3.3 GW of PV installed in the first half of 2024 alone), is poised to provide a significant boost to the storage market in the coming years: Italy is forecast to surpass Germany in the total number of newly installed BESS across all segments in 2024, solidifying its position as a leader in the EU's energy storage sector.

## Cumulative and Yearly Installed Capacity



Starting with a cumulative BESS capacity of 745 MWh in 2021, Italy rapidly expanded its storage capacity, reaching 2,752 MWh by the end of 2022. By the close of 2023, the country had installed 518,950 storage systems, bringing its total cumulative BESS capacity to 6,644 MWh. This growth reflects a remarkable year-on-year increase, with storage capacity growing by 269% in 2022 and by 141% in 2023. Italy installed 3,892 MWh of new storage systems in 2023, marking the highest growth ever recorded in the country’s storage deployment.



Yearly installed storage capacity | Source: EUPD Research 2024, GET Matrix®

The market is predominantly driven by residential and commercial systems. In 2023, approximately 94% of all BESS installed were smaller systems, with around 23% of these having capacities between 10 kWh and 70%, while 70% were systems under 500 kWh. The remaining 6% were large-scale storage systems, a segment expected to see significant growth by the end of 2024.

### Market Drivers and Barriers (Policy)

The Italian PV storage market is shaped by a mix of market dynamics, policy measures, and investment incentives. To date, storage systems in Italy primarily operate within the electricity market, engaging in mechanisms like arbitrage (time-shifting), the provision of ancillary services, and participation in network balancing through the Ancillary Services Market (MSD). These systems can function in various configurations, including as one-way, two-way, or bidirectional post-production storage systems, depending on how they are integrated with photovoltaic (PV) generation. Policy support plays a significant role in driving the growth of the PV storage market. The regional government has introduced a multi-year rebate scheme to incentivize the installation of residential and commercial storage systems for PV installations. A total of €4.4 million has been allocated to offer rebates of up to €3,000, covering

up to 50% of the cost of purchasing and deploying these systems. However, only projects with PV installations of up to 20 kW are eligible for this support. On a broader scale, Italy is also benefiting from a European Commission-approved scheme worth €17.7 billion to support the establishment and operation of a centralized electricity storage system. This mechanism will help cover both investment and operational costs through annual payments, ensuring the continued development of Italy's storage infrastructure. In addition, Italy offers several tax incentives to promote the adoption of PV and storage systems. The Superbonus program, which provides a 70% tax deduction for the installation of PV systems and storage batteries, is set to expire on December 31, 2024. The Renovation Bonus allows for a 50% deduction of installation costs, capped at €96,000 per property unit, and can be combined with other benefits such as a 10% reduced VAT rate and the Thermal Account. The key drivers behind Italy's PV storage market include the increasing deployment of PV systems, which often result in negative or near-zero electricity prices, creating an economic incentive for storage. Additionally, funding mechanisms such as tax credits, tenders, and rebate schemes are instrumental in driving investment. The high PV deployment rate expected in the coming years further strengthens the case for expanding storage capacity. However, there are notable barriers to growth in the market. The less favorable Superbonus scheme for 2024 and 2025 is expected to reduce the incentive for residential and commercial storage installations. There are also uncertainties surrounding the support for agri-PV, which could indirectly impact the demand for storage systems in agricultural settings. Furthermore, the lack of a concrete BESS strategy or clear targets for 2030 presents a challenge, as long-term market certainty is crucial for attracting sustained investment in storage technologies. In summary, while Italy's PV storage market is supported by robust policies and incentives, the sector faces several challenges, including evolving financial support mechanisms and uncertainties around future strategic direction. However, with significant PV deployment anticipated and ongoing investments in storage infrastructure, the market is poised for continued growth.

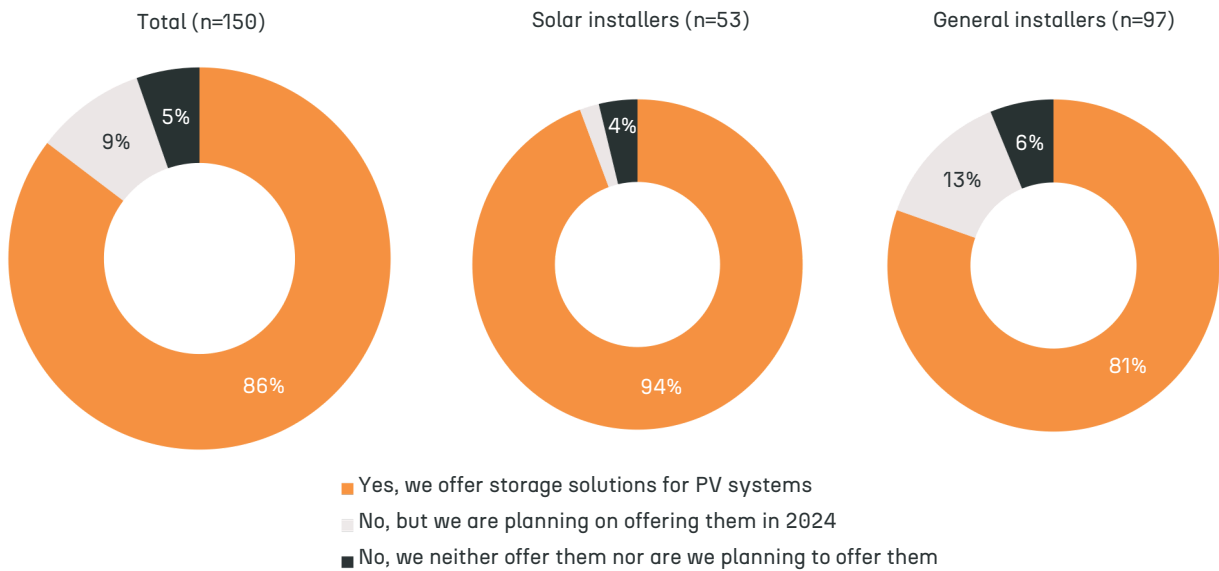
## INSTALLER PERSPECTIVES AND MARKET REALITIES

Moving from the macro-perspective of the Italian storage market to the micro-level perspective, the EES InstallerMonitor© survey, conducted among 150 PV installers in Italy, reveals critical insights into market dynamics:



## Storage Offerings

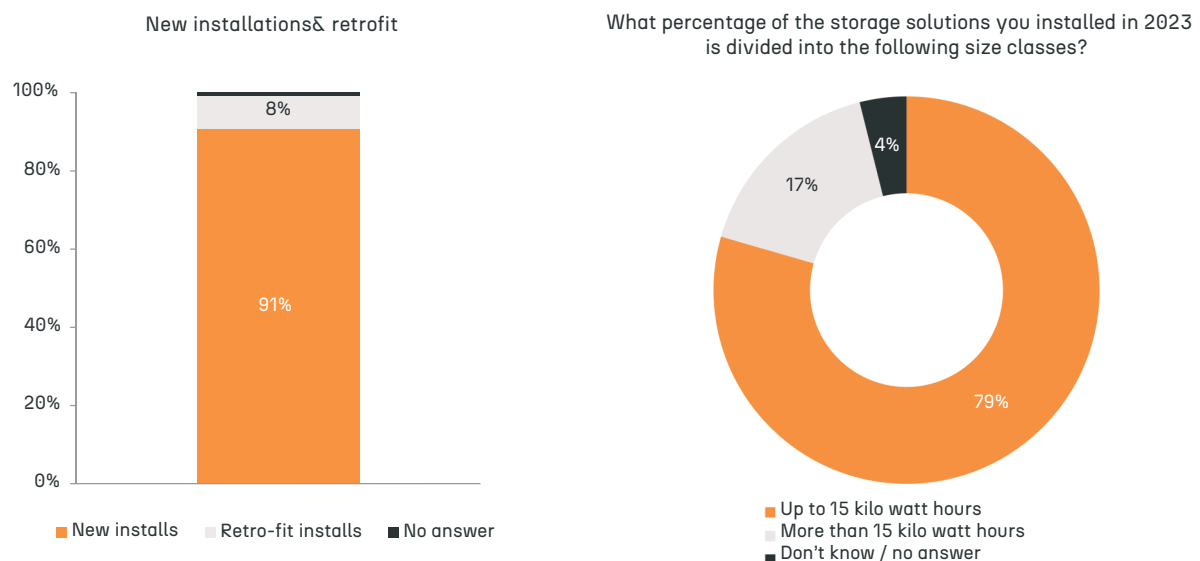
86% of respondents currently offer storage systems, while 9% plan to include BESS in their portfolio by 2024. Notably, solar installers are more likely to offer storage systems than general installers. While 94% of solar installers stated that they offer these systems, this share was more than 10% lower among general installers, among whom 81% reported installing storage systems.



Share of installers offering or planning to offer PV storage solutions | Source: EUPD Research 2024

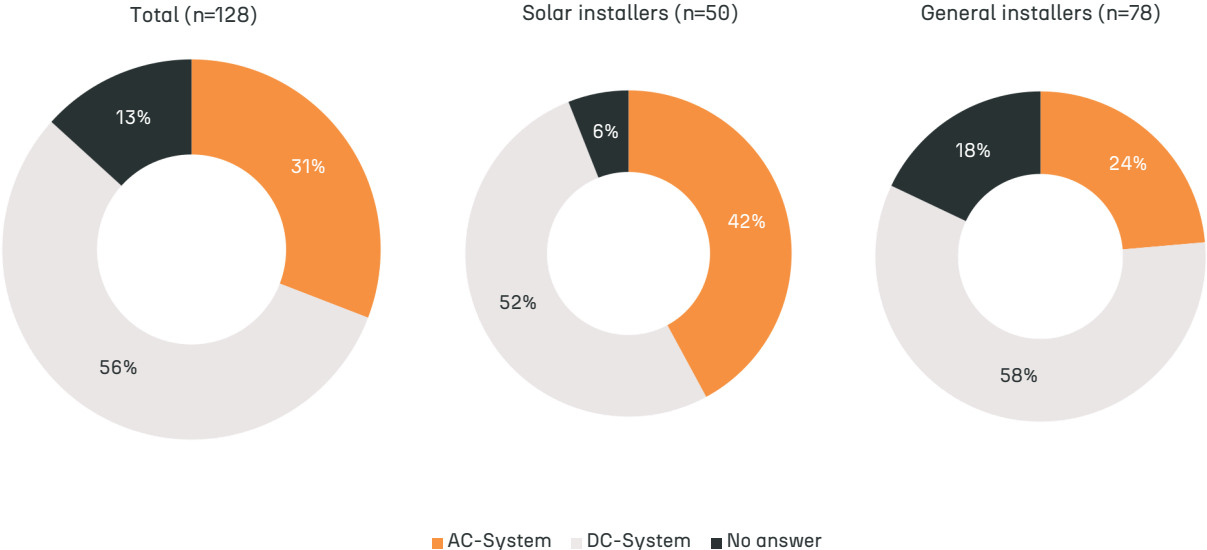
## Installation Trends

On average, installers report that 91% of storage units are installed alongside new PV systems, and only 8% are retrofits. Additionally, on average 80% of installed systems have a capacity of up to 15 kWh.



New installations as share of building type and share of storage size | Source: EUPD Research 2024

DC systems account for an average of 56% of installed storage solutions, maintaining a majority share across both solar and general installers. In contrast, the adoption of AC systems varies more significantly by installer type: while AC systems represent 31% of installations across all respondents, this share increases to 42% among solar installers and drops to 24% among general installers.



Share of AC or DC among new storage installations | Source: EUPD Research 2024

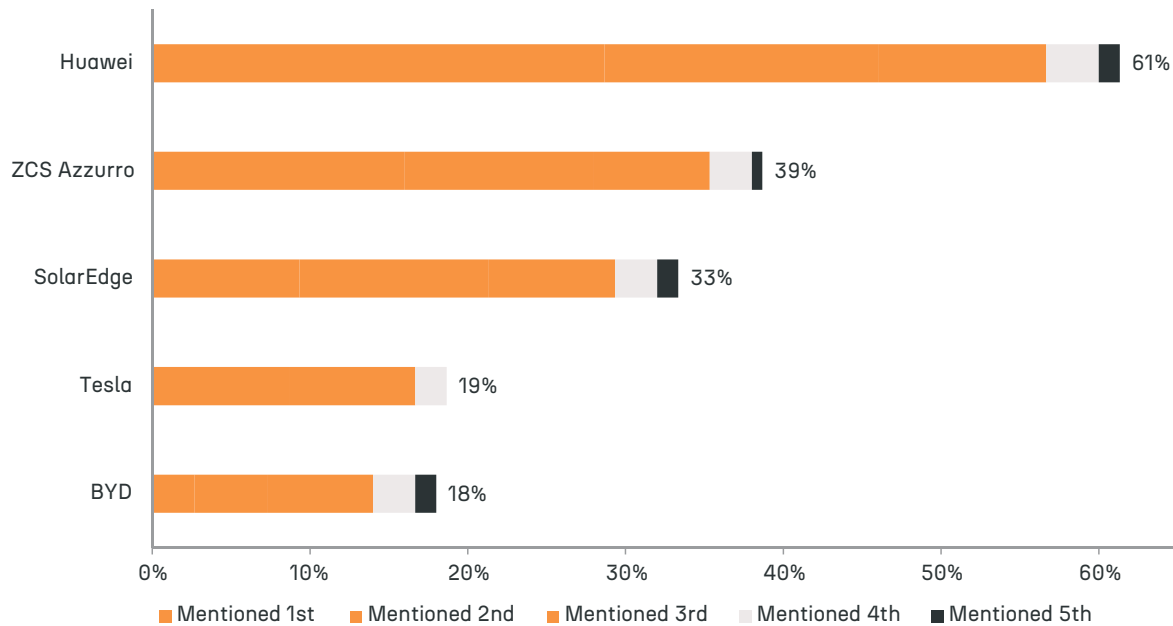
Low-voltage systems are the most commonly installed storage solutions, with respondents reporting that approximately two-thirds of their installations in 2023 fell into this category. While solar installers were slightly more likely to install high-voltage systems, these accounted for only one-third of their total installations on average.

### Distribution Patterns

Approximately 84% of storage systems are acquired through wholesalers, with direct procurement accounting for only 14% of total system purchases on average. While solar installers and high-volume installers show a slightly higher tendency to directly procure storage systems, there are no substantial deviations from the overall distribution observed across these subgroups. Sonepar, Coenergia, and VP Solar emerged as the leading suppliers of storage systems in 2023. In terms of other key players, the market saw the rise of new contenders gaining significant recognition, including Forniture Fotovoltaiche, Amara Net Zero, and Test (Test Energia). Conversely, companies like Krannich Solar and Memo do experienced substantial declines in customer share.

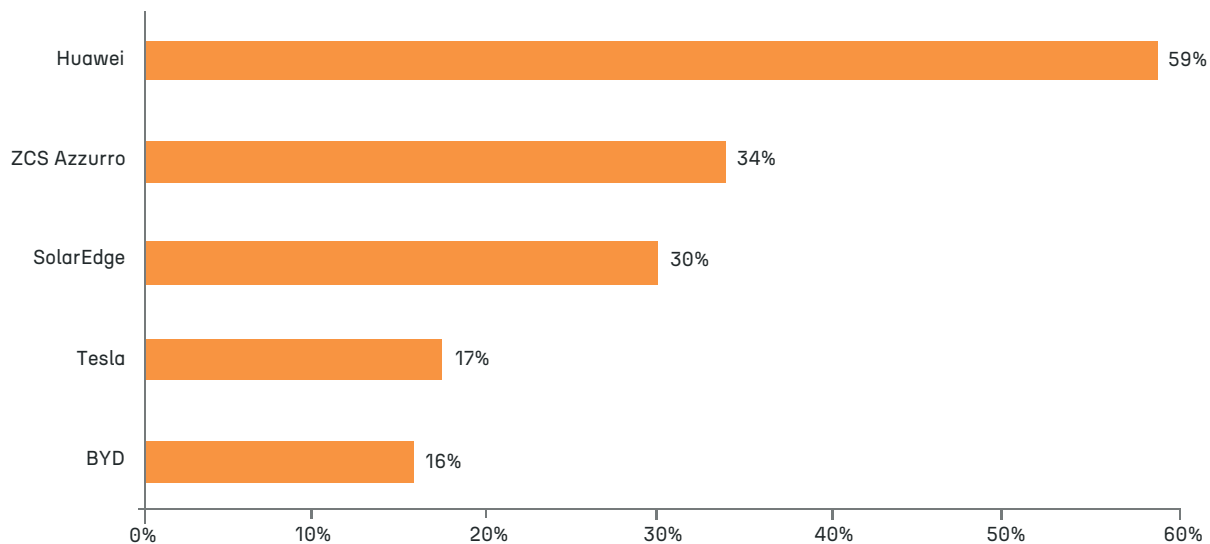
## Brand Preferences

In terms of brand recognition, Huawei led the market in 2023, achieving a substantial increase in brand awareness, mentioned by over 60% of respondents, and surpassing BYD as the best-known storage brand in Italy in 2022 (BYD declined from the first to the fifth position in unaided brand awareness rankings in 2023). Similarly, ZCS Azzurro made notable gains, climbing several ranks compared to 2022.

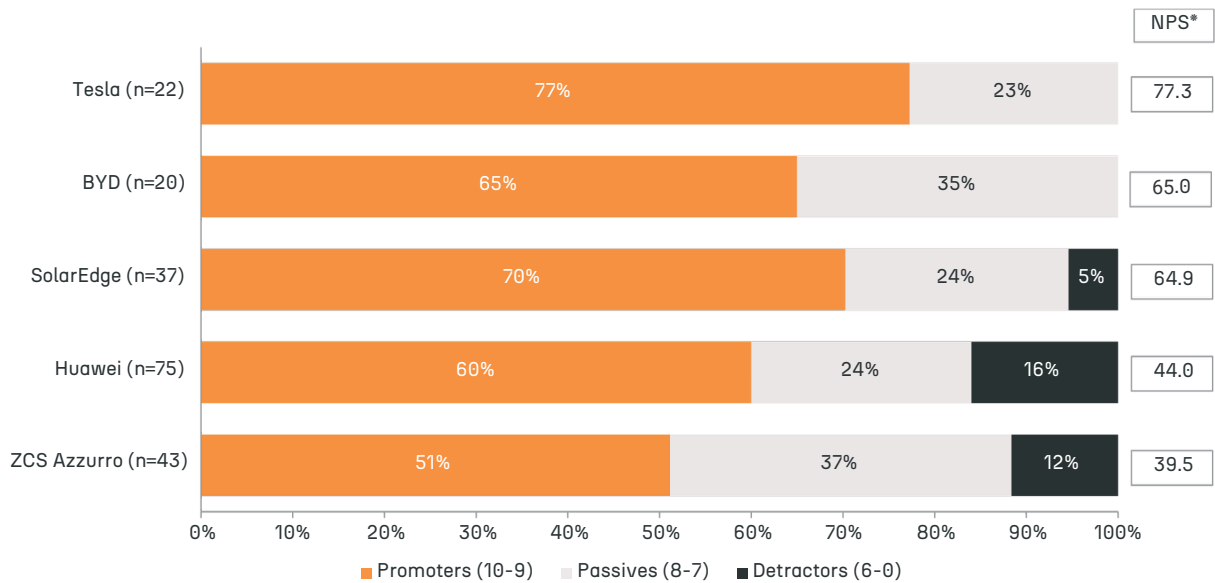


Unaided Brand Awareness: share of installers mentioning the brand when asked to name manufacturers | Source: EUPD Research 2024

Huawei is also the most offered brand, present in 60% of portfolios. SolarEdge maintained its 2022 market share, while ZCS Azzurro doubled its presence. Conversely, BYD saw a significant decline, while Tesla achieved the highest Net Promoter Score (NPS) of 77%, followed by BYD (65.0) and SolarEdge (64.9). The remaining two companies among the five most offered brands have lower NPS, with Huawei having an NPS of 44.0 and ZCS Azzurro having an NPS of 39.5.



Portfolio Width: share of installers offering the brand | Source: EUPD Research 2024



Net Promoter Score: likelihood of recommending the brand | Source: EUPD Research 2024

Meanwhile, 30% of surveyed installers indicated that they actively avoid certain storage manufacturers. Critical factors influencing brand preference are customer service and product reliability, cited by 44% of installers. System quality follows closely, being important to 41% of respondents. Other factors contributing to brand preference include ease of installation and user-friendly interfaces (21%), and, to a lesser extent, aesthetic design (7%).

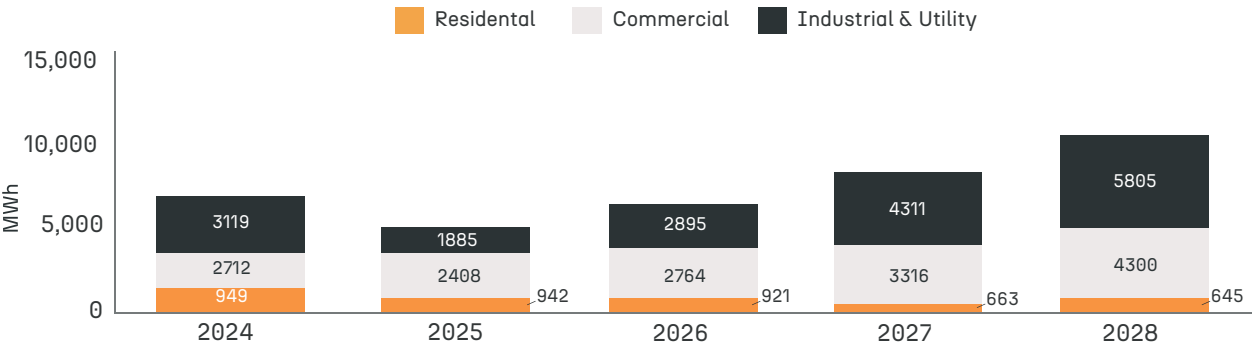
## Installers' In-Depth Observations

In 2023, installers expressed an optimistic outlook on the continued growth of the Italian storage market, highlighting expectations of increasing adoption driven by greater affordability and improvements in installation scalability. While growth in the physical size of storage systems was deemed less likely, advancements were anticipated for their capacity and technological sophistication. Correspondingly, installers underscored the rising importance of monitoring systems and maintenance services, critical to managing the increasing complexity of storage solutions. Additionally, the development of lithium battery technologies and the establishment of robust safety protocols were identified as key priorities for ensuring the safe and efficient expansion of the market.

## MARKET FORECAST

Energy storage systems are becoming an essential component of Italy's electricity infrastructure, with the majority currently integrated alongside small-scale retail photovoltaic systems. However, this landscape is set to evolve rapidly as the costs of battery and module technology continue to decline. Three key factors are poised

to shape the trajectory of battery energy storage system deployment in the short and medium term: the pace of photovoltaic installations, the availability of funding incentives for BESS, and the role of grid-scale tenders. In light of these dynamics, and given that Italy installed 914 MWh and 1,562 MWh of BESS across all segments in Q1 and Q2 2024 respectively, growth in residential BESS installations is anticipated to remain flat for the year. This trend is largely attributed to reduced incentives under the Superbonus scheme and increased stability in electricity supply. Nonetheless, the operationalization of large-scale BESS projects during H1 2024 suggests that the total capacity added in 2024 is likely to surpass last year's figures. Taking into account Italy's installation of approximately 2.5 GWh in the first half of 2024 and the pipeline of large-scale projects yet to be completed, the country is projected to add over 6 GWh of BESS capacity in 2024, with the majority concentrated in the utility segment. Looking ahead, as Italy works toward its 2030 goal of 79 GW of PV capacity—requiring an annual average of 7 GW in new installations—BESS adoption is also expected to maintain strong growth, particularly within the commercial, industrial, and utility-scale sectors.



Market Forecast: yearly installed storage capacity | Source: EUPD Research 2024, GET Matrix©

## CONCLUSION

Italy's energy storage market stands at the forefront of the renewable energy transition, exemplifying the pivotal role of Battery Energy Storage Systems in achieving a sustainable and resilient energy future. Despite short-term challenges, such as fluctuating incentives under the Superbonus scheme and uncertainties in policy frameworks, the Italian market has demonstrated remarkable adaptability and growth. The interplay of robust photovoltaic deployment, technological advancements, and strategic policy interventions is propelling the country toward a leadership position in the European energy storage sector. The rapid expansion of PV installations, with 3.3 GW added in the first half of 2024 alone, has created significant demand for storage solutions, enabling Italy

to efficiently manage grid integration and address electricity market fluctuations.



This synergy between PV and storage highlights the importance of BESS in mitigating grid instability, supporting renewable integration, and enhancing energy resilience. The fact that Italy will likely surpass Germany in newly installed BESS by the end of 2024 underscores its evolving prominence in the EU's clean energy landscape. At the core of Italy's success is a diversified market structure that spans residential, commercial, and utility-scale applications. While residential BESS remain dominant, accounting for 94% of installations in 2023, the growing share of large-scale projects is reshaping the market's trajectory. These utility-scale installations, bolstered by grid-scale tenders and European Commission-approved schemes, are expected to play an increasingly central role in driving capacity growth. By 2030, Italy's ambitious target of 79 GW of PV capacity is set to further accelerate BESS adoption across all segments. The market's resilience is also evident in its response to policy-driven fluctuations. Although the Superbonus program's reduced benefits may temper residential growth in the near term, alternative incentives like the Renovation Bonus, regional rebate schemes, and the €17.7 billion European support mechanism provide substantial support for the sector. These policies, combined with declining costs for battery technology and modules, create a favorable environment for sustained investment and innovation in energy storage. Insights from the EES InstallerMonitor® survey further emphasize the market's dynamism and potential. High adoption rates among solar installers, increasing brand diversification, and a focus on customer service and product reliability reflect a maturing industry that is well-aligned with consumer expectations. Additionally, advancements in lithium battery technologies, safety protocols, and monitoring systems are enhancing the scalability and efficiency of storage solutions. Looking ahead, Italy's energy storage market is poised for robust growth. The anticipated addition of over 6 GWh of BESS capacity in 2024, with a significant portion from utility-scale projects, marks a pivotal step toward meeting the country's renewable energy goals. As Italy continues to leverage its strengths in PV deployment, policy support, and technological innovation, it is well-positioned to solidify its status as a leader in the European energy transition. In conclusion, Italy's evolving energy storage market serves as a model for integrating renewable energy at scale. While short-term challenges persist, the combination of high PV deployment rates, decreasing costs, and utility-scale projects positions Italy for long-term success in the BESS sector.

For more information on the GET Matrix® or EES InstallerMonitor®, visit our website at [www.eupd-research.com](http://www.eupd-research.com)

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