

Building-To-Grid Technology Market In 2029

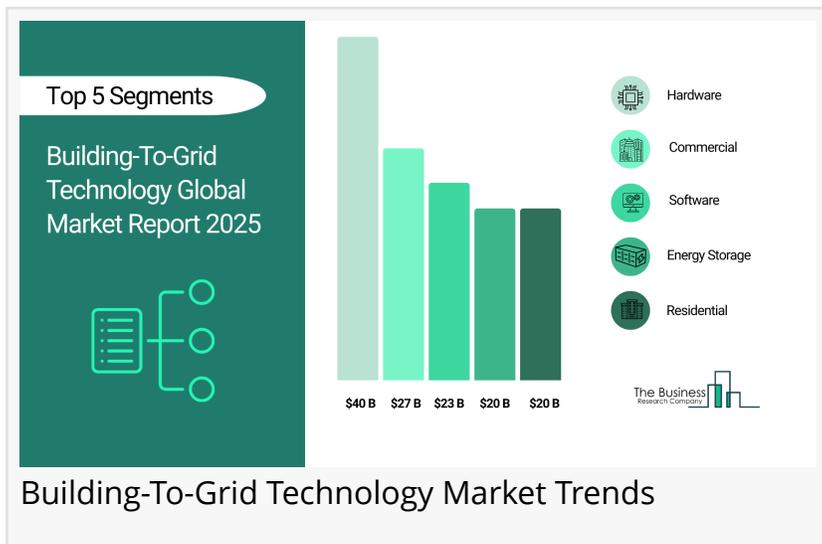
The Business Research Company's Building-To-Grid Technology Global Market Report 2025 - Market Size, Trends, And Global Forecast 2025-2034

LONDON, GREATER LONDON, UNITED KINGDOM, January 9, 2026

[/Einpresswire.com/](https://www.einpresswire.com/) -- [Building-To-Grid Technology Market](#) to Surpass \$90

billion in 2029. In comparison, the Power Generation market, which is considered as its parent market, is expected to be approximately \$2,634

billion by 2029, with Building-To-Grid Technology to represent around 3% of the parent market. Within the broader Utilities industry, which is expected to be \$8,843 billion by 2029, the Building-To-Grid Technology market is estimated to account for nearly 1% of the total market value.



Building-To-Grid Technology Market Trends



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Which Will Be the Biggest Region in the Building-To-Grid Technology Market in 2029

North America will be the largest region in the building-to-grid technology market in 2029, valued at \$29,166 million. The market is expected to grow from \$20,157 million in 2024 at a compound annual growth rate (CAGR) of 8%. The strong growth can be attributed to the rising deployment of smart grids and smart meters and increasing carbon emission reduction.

Which Will Be The Largest Country In The Global Building-To-Grid Technology Market In 2029?

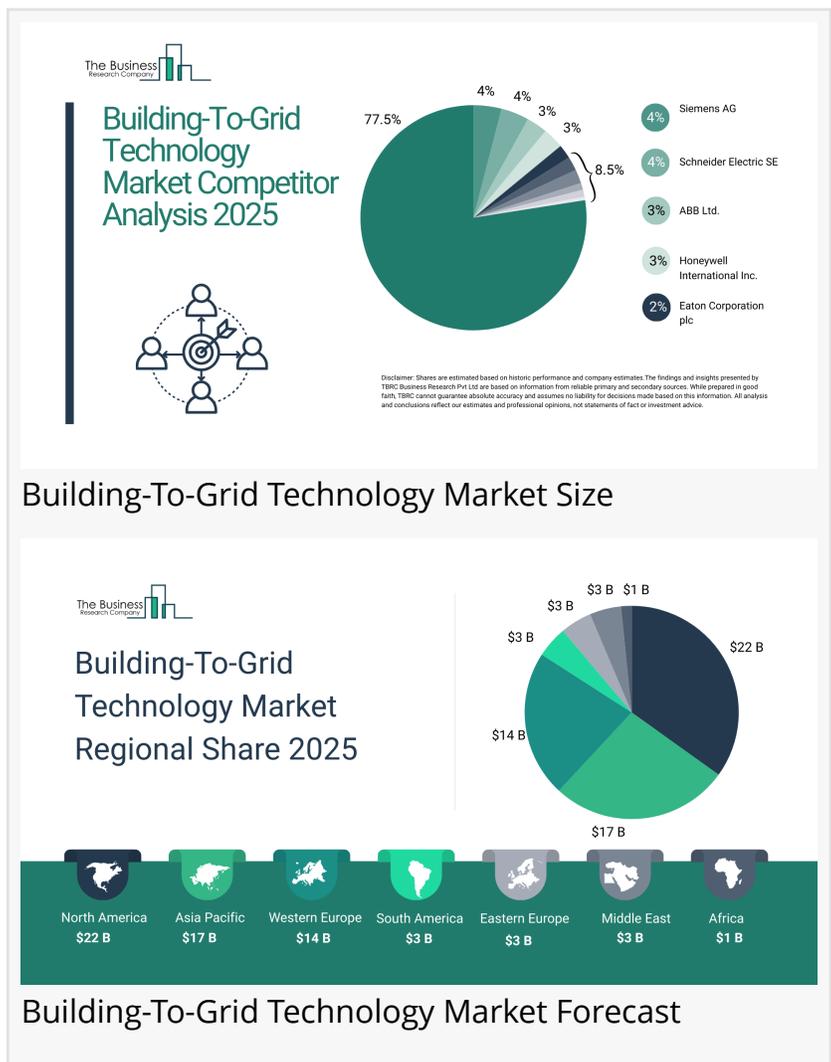
The USA will be the largest country in the building-to-grid technology market in 2029, valued at \$23,209 million. The market is expected to grow from \$16,483 million in 2024 at a compound annual growth rate (CAGR) of 7%. The strong growth can be attributed to the increasing carbon emission reduction and increasing adoption of electric vehicles (EVs).

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https://www.thebusinessresearchcompany.com/sample_request?id=18979&type=smp

What will be Largest Segment in the Building-To-Grid Technology Market in 2029?

The building-to-grid technology market is segmented by technology into smart sensing, smart metering, control technology, energy storage and other technologies. The energy storage market will be [the largest segment of the building-to-grid technology market](#) segmented by technology, accounting for 34% or \$30,185 million of the total in 2029. The energy storage market will be supported by rising focus on energy reliability and grid resilience, growing integration of renewable energy sources requiring storage balancing, increasing deployment of battery energy storage systems (BESS) in commercial buildings, supportive policies promoting distributed energy storage, growing demand for peak shaving and backup power applications, and corporate sustainability goals driving investments in on-site storage infrastructure.



The building-to-grid technology market is segmented by component into hardware and software. The hardware market will be the largest segment of the building-to-grid technology market segmented by component, accounting for 61% or \$54,486 million of the total in 2029. The hardware market will be supported by increasing installations of sensors, inverters, and smart controllers, growing investments in advanced grid infrastructure, rising demand for durable and high-efficiency electrical components, expanding commercial construction projects integrating B2G systems, and standardization of hardware interfaces for interoperability across multiple energy systems.

The building-to-grid technology market is segmented by end-user into commercial, residential and industrial. The commercial market will be the largest segment of the building-to-grid technology market segmented by end-user, accounting for 42% or \$38,155 million of the total in 2029. The commercial market will be supported by growing adoption of energy-efficient systems in office complexes and shopping centers, rising implementation of demand response programs by corporate buildings, increasing focus on lowering energy costs through smart grid integration, supportive government green building mandates, and expanding investment in renewable-ready

commercial infrastructure.

What is the expected CAGR for the Building-To-Grid Technology Market leading up to 2029?

The expected CAGR for the building-to-grid technology market leading up to 2029 is 9%.

What Will Be The Growth Driving Factors In The Global Building-To-Grid Technology Market In The Forecast Period?

The rapid growth of the global building-to-grid technology market leading up to 2029 will be driven by the following key factors that are expected to reshape energy distribution, smart infrastructure development, and grid-interactive building operations worldwide.

Increasing Adoption Of Electric Vehicles (EVS) - The increasing adoption of electric vehicles (EVS) will become a key driver of growth in the building-to-grid technology market by 2029. As EV usage increases worldwide, there is a corresponding rise in the demand for charging infrastructure across residential, commercial, and industrial buildings. B2G systems allow these buildings to interact intelligently with the power grid by managing EV charging loads, optimizing overall energy use, and enabling vehicle-to-grid (V2G) functionality where energy stored in EV batteries can be returned to the grid during times of high demand. This bidirectional energy exchange enhances grid stability and increases energy flexibility. Furthermore, as buildings transition into active participants in the energy ecosystem, EV integration supports the shift toward a decentralized power grid, enabling real-time balancing and reducing dependence on traditional fossil fuel generation. The integration of EVs and B2G technologies transforms buildings into dynamic energy hubs that contribute to a more resilient and sustainable grid. As a result, the increasing adoption of electric vehicles (EVS) is anticipated to contributing to a 2.0% annual growth in the market.

Rising Renewable Energy Integration - The rising renewable energy integration will emerge as a major factor driving the expansion of the building-to-grid technology market by 2029. Buildings equipped with renewable energy systems, such as solar panels, are playing a larger role in supporting the grid through bidirectional energy exchange and more efficient use of variable renewable power. B2G technologies enable these buildings to function as distributed energy resources—storing surplus energy, managing power flows, and helping to stabilize grid operations. With the use of smart sensors, control systems, and energy storage solutions, buildings can adapt their energy consumption in real time based on renewable energy availability and grid demand. This capability helps to mitigate the challenges associated with renewable energy intermittency and supports a more efficient, flexible, and resilient power system. As renewable energy penetration increases, buildings will become essential as intelligent energy hubs, supporting grid stability and advancing decarbonization efforts. Consequently, the rising renewable energy integration is projected to contributing to a 1.5% annual growth in the market.

Rising Deployment Of Smart Grids And Smart Meters - The rising deployment of smart grids and smart meters within digital manufacturing processes will serve as a key growth catalyst for the

building-to-grid technology market by 2029. Smart grids serve as the digital foundation that links energy producers, consumers, and prosumers, enabling real-time, two-way communication between buildings and utilities. Smart meters complement this by providing detailed, real-time data on energy usage, generation, and grid conditions, allowing building management systems to optimize energy consumption and react proactively to dynamic pricing and demand signals. These technologies increase transparency, accuracy, and automation in energy transactions, enabling buildings to participate in demand response programs and enhance overall grid efficiency. As utilities continue to modernize their infrastructure, the integration of B2G systems becomes critical to maximizing the value of smart grid capabilities supporting advanced load control, distributed energy resource coordination, and data-driven energy management across residential, commercial, and industrial sectors. Therefore, this rising deployment of smart grids and smart meters across digital manufacturing operations is projected to supporting to a 0.8% annual growth in the market.

Increasing Carbon Emission Reduction - The increasing carbon emission reduction will become a significant driver contributing to the growth of the building-to-grid technology market by 2029. Governments, businesses, and property owners are increasingly focused on decarbonization strategies that prioritize energy efficiency, renewable energy adoption, and electrification. B2G systems support these goals by enabling buildings to manage energy use more intelligently, store excess renewable energy, and contribute to grid stability through flexible demand response. By leveraging advanced analytics, control technologies, and energy storage, B2G solutions help reduce greenhouse gas emissions tied to building operations while enhancing overall energy performance. This aligns with global climate commitments and regulatory mandates aimed at achieving net-zero carbon buildings and cleaner energy systems. As carbon reduction targets tighten, the demand for B2G technologies is expected to grow, positioning them as a vital component of the transition to a low-carbon, sustainable energy infrastructure. Consequently, the increasing carbon emission reduction strategies is projected to contributing to a 0.5% annual growth in the market.

Access the detailed Building-To-Grid Technology Market report here:

<https://www.thebusinessresearchcompany.com/report/building-to-grid-technology-global-market-report>

What Are The Key Growth Opportunities In The Building-To-Grid Technology Market in 2029? The most significant growth opportunities are anticipated in the building-to-grid technology hardware market, the commercial building-to-grid technology market, and the building-to-grid energy storage market. Collectively, these segments are projected to contribute over \$44 billion in market value by 2029, driven by rising integration of smart grid connectivity, increasing deployment of distributed energy resources, and the growing need for real-time energy optimization across commercial infrastructures. This surge reflects the accelerating adoption of building-grid interoperability technologies that enable bidirectional energy flow, improved load balancing, and enhanced resiliency against grid fluctuations, fueling transformative growth within the broader Building-to-Grid industry.

The building-to-grid technology hardware market is projected to grow by \$18,166 million, the commercial building-to-grid technology market by \$13,900 million, and the building-to-grid energy storage market by \$11,760 million over the next five years from 2024 to 2029.

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