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Challenges for Japan's Electricity Policy in 2026 - Securing Medium- to Long-Term Power Supply in the Face of Increasing Electricity Demand - < Summary >

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Outlook for Electricity Demand and Securing Supply Capacity in Japan

1. According to the electricity demand outlook published in January 2025 by the Organization for Cross-regional Coordination of Transmission Operators, Japan (OCCTO), nationwide electricity demand (end-use basis) is projected to grow at an average annual rate of 0.6% between FY2024 and FY2034. From FY2026 onward, demand is expected to continue increasing through FY2034, driven by economic growth as well as ongoing construction and expansion of data centers and semiconductor manufacturing facilities. From a regional perspective, electricity demand growth is particularly pronounced in Hokkaido and the Tokyo metropolitan area.
2. OCCTO estimates that new and expanded data centers and semiconductor plants will increase peak electricity demand by up to 7.15 GW between FY2024 and FY2034. In the Tokyo metropolitan area, grid reinforcement may be required when connecting data centers to the power system, raising concerns that grid connection lead times could become longer. Going forward, in addition to promoting earlier grid connections, it will be important to encourage the geographical dispersion of data centers to regions outside the Tokyo and Osaka metropolitan areas, particularly for applications that do not require ultra-low latency.
3. For winter FY2025, Japan is expected to secure a minimum reserve margin of at least 3% in all regions against severe winter demand assumptions.
4. Looking ahead, long-term suspensions and retirements—particularly of inefficient coal-fired power plants—are expected to continue. At the same time, new construction and replacement of power plants, such as LNG-fired power plants, will proceed through the Long-Term Decarbonized Power Source Auction, although commercial operation is expected to begin after 2029. As Japan enters a transitional phase of power supply restructuring, supply–demand conditions remain uncertain, especially during peak summer and winter periods through the early 2030s.
5. According to the FY2026 supply–demand outlook published in October 2025, overlapping long-term outages and suspensions of power plants could reduce the reserve margin in the Tokyo area to as low as 0.9% in August 2026. In response, a policy direction was indicated to conduct a 1.2 GW capacity tender (kW auction) in the Tokyo area. In November 2025, the Governor of Niigata Prefecture approved the restart of Kashiwazaki-Kariwa Nuclear Power Plant Unit 6. Its restart is expected to increase the reserve margin by approximately 2.4 percentage points, potentially raising it to around 3.3% even without conducting a kW auction.

6. Japan has already introduced a capacity market designed to secure supply capacity four years ahead. In January 2025, a capacity auction targeting FY2028 supply was conducted, and capacity prices have been rising overall. The primary driver of higher capacity prices is considered to be an increase in bid price levels. Depending on developments in the Long-Term Decarbonized Power Source Auction and the pace of power plant suspensions and retirements, capacity prices could rise further if electricity demand continues to grow while supply capacity remains constrained.

Electricity Demand Outlook and Supply Capacity in the United States

7. In the PJM region in the eastern United States, demand forecasts have been revised upward on an annual basis. While the projected average annual growth rate of electricity consumption over the next decade was 0.7% in the 2020 outlook, it increased to 4.8% in the 2025 outlook.
8. In PJM, capacity prices for the 2026/27 delivery year rose to the price cap of USD 329.17 per MW per day (approximately JPY 18,000 per kW per year). The main factors behind the surge in capacity prices include: (1) a reduction in supply-side bidding volumes, (2) an increase in projected electricity demand, and (3) an increase in the required reserve margin to 19.1%.

Challenges for the Long-Term Decarbonized Power Source Auction and Consideration of Public Finance

9. In Japan, the Long-Term Decarbonized Power Source Auction was introduced in January 2024 as a supplement to the conventional capacity market. Winning bidders receive fixed-cost revenue for 20 years in principle, while approximately 90% of profits from other electricity markets are clawed back ex post. In both the first and second auctions, a large number of battery storage projects were awarded. The first auction included Shimane Nuclear Power Plant Unit 3, while the second auction focused on safety investments in existing nuclear power plants, with a total awarded capacity of 3.153 million kW. Although LNG-fired power plants attracted strong participation in the first auction, the number of bids declined in the second auction.
10. Under this scheme, the scope of eligible power sources and related requirements has been expanded and revised. Newly eligible categories include new construction and replacement of ammonia-fired power plants, conversion of existing thermal power plants to hydrogen or ammonia dedicated firing, retrofitting with carbon capture and storage (CCS), and long-duration energy storage facilities. In addition, the minimum continuous operation duration for batteries and similar resources was extended to six hours or more. Furthermore, for certain power sources, provisions were added to allow construction costs to be reflected in bid prices—up to 1.5 times the initial cost—once additional investment amounts are confirmed.
11. From the fourth auction onward, potential discussion points include:
    (1) eliminating the risk of unrecovered fixed costs for nuclear power and other capital-intensive power sources;
    (2) introducing mechanisms to allow cost recovery during the construction period of nuclear power plants and similar facilities;
    (3) enabling the participation of offshore wind projects under the FIP scheme in the Long-Term Decarbonized Power Source Auction;
    (4) realizing optimal operation of battery storage systems; and

(5) region-specific deployment of batteries that takes into account the geographic concentration of variable renewable energy.

12. Achieving decarbonization of the power sector while ensuring a stable electricity supply requires large-scale investment in power generation facilities as well as transmission and distribution infrastructure. However, securing financing within a short time frame is not always easy. In Texas, the United States, a state-funded mechanism has been established to support power generators through low-interest loans provided by a government-backed fund. Japan is also moving toward greater utilization of government creditworthiness, but it will be necessary to organize and develop financing mechanisms—including Fiscal Investment and Loan Program (FILP)–type schemes—to effectively support large-scale investment.

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