

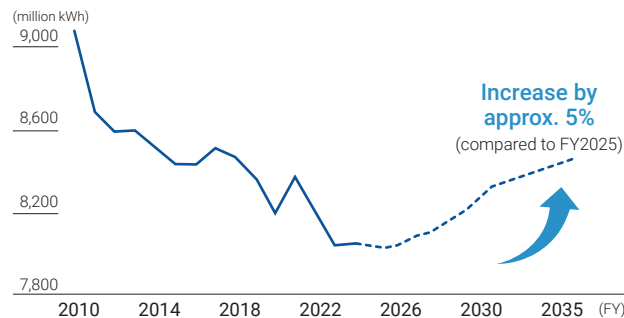
Environment Surrounding the Domestic Electric Power Business

Electric Power Demand in Japan: From a Period of Stagnation to a Growth Phase

Electric power consumption in Japan has expanded over the long term, driven by the country's postwar economic growth, industrial development, advances in information technology, and increasingly sophisticated lifestyles. However, following the Great East Japan Earthquake in 2011, electricity demand entered a downward trend due to the widespread adoption of energy conservation measures and population decline associated with Japan's aging society and declining birthrate. Accordingly, future demand was also expected to remain stagnant or decline.

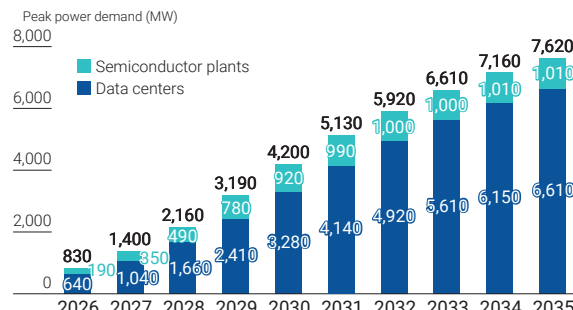
In recent years, however, the demand forecast released by the Organization for Cross-regional Coordination of Transmission Operators, JAPAN (OCCTO) has indicated that electricity demand, particularly in the industrial sector, is expected to shift to a growth trajectory, driven by the construction and expansion of semiconductor plants and data centers.

Historical and projected electric power demand



Source: Created by J-Power based on OCCTO "Forecast on Electricity Demand Nationwide and by Regional Service-Area"

Projected demand from the construction and expansion of data centers and semiconductor plants

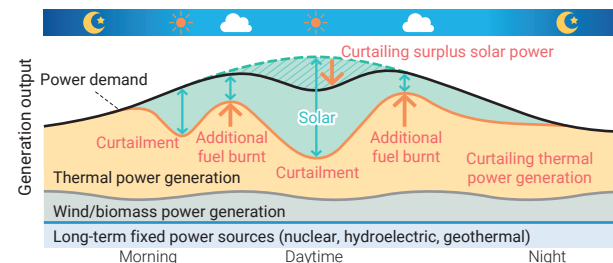


Source: Created by J-POWER based on OCCTO "Forecast on Electricity Demand Nationwide and by Regional Service-Area (FY2026)"

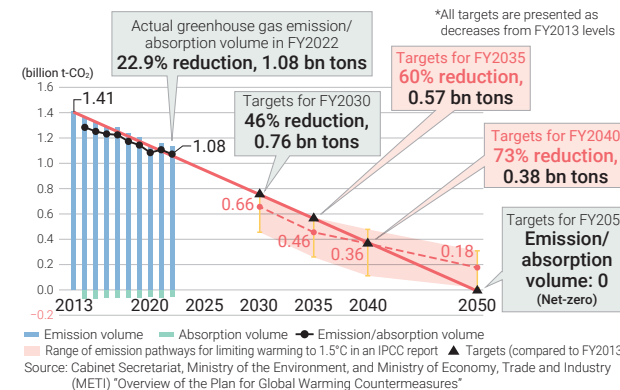
Power Supply in Japan: Changes in the Supply Structure and the Transition to Decarbonization

In Japan, power supply has traditionally relied on coal-fired thermal power, nuclear power, and general hydroelectric power, which can provide stable around-the-clock operation at relatively low generation costs, to serve as baseload power sources that supply the level of electricity required at all times. In contrast, LNG-fired thermal power, oil-fired thermal power, and pumped storage hydroelectric power generation, which can adjust their output in response to fluctuations in electricity demand, have served as intermediate-load and peak-load power sources by balancing electricity supply and demand.

In recent years, as renewable energy has come to account for a growing share of Japan's power supply due to its large-scale deployment, thermal power sources, including coal-fired thermal power, have operated as intermediate-load power sources with adjustment capability during periods when renewable energy output declines, such as during unfavorable weather conditions and at night, thereby playing a vital role in ensuring a stable supply of electricity in Japan.



Against this backdrop, in February 2025, Japan submitted its new Nationally Determined Contribution (NDC) to the United Nations, setting an ambitious target consistent with the global 1.5°C target and aimed at achieving carbon neutrality by 2050.



Source: Cabinet Secretariat, Ministry of the Environment, and Ministry of Economy, Trade and Industry (METI) "Overview of the Plan for Global Warming Countermeasures"

To achieve a carbon-neutral society by 2050, future thermal power sources are required to gradually transition to zero CO₂-emission thermal power. As part of this initiative, the government has set out a policy to promote the phase-out of inefficient coal-fired thermal power generation facilities with supercritical (SC) or lower conditions by 2030.

Meanwhile, although Japan's policy is to maximize the deployment of renewable energy as a primary power source, its geographic characteristics—including a limited extent of shallow coastal waters and predominantly mountainous terrain—pose constraints on the siting of renewable energy facilities. Accordingly, the early development of promising sites, based on the understanding of local communities, and the effective use of existing facilities will be key to expanding renewable energy. Offshore wind power, which is expected to be a large-scale, stable power source, has limited development potential in the near term partly due to capacity constraints in the power grid that connects promising sites with large demand areas.

