

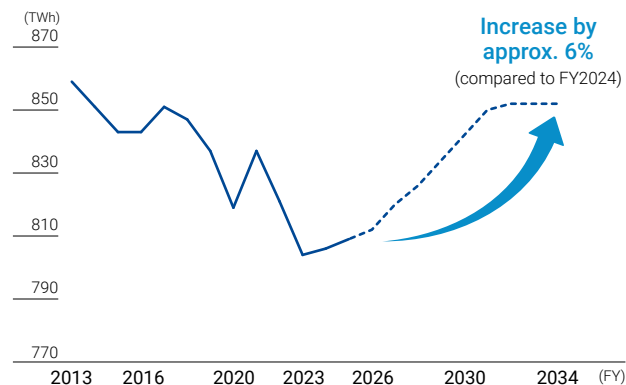
Environment Surrounding the Domestic Electric Power Business

Electric Power Demand in Japan

Electric power consumption continued to grow almost consistently in postwar Japan in line with the economic growth of the country. Power demand continued to grow also after the 1990s, when the country entered a period of stable growth and an information society, driven not only by increased power consumption in the industrial sector but also by the growing need for convenient and comfortable lifestyles including the advanced information technology and the widespread use of air conditioners. The demand for electricity was expected to stagnate and decline due to power-saving efforts prompted by the Great East Japan Earthquake in 2011 and a declining population resulting from a falling birthrate and aging society.

In recent years, however, the outlook for electricity demand published by the Organization for Cross-regional Coordination of Transmission Operators, JAPAN (OCCTO) presented a blueprint for future growth in power demand on the back of growing consumption of industrial electricity resulting from the expansion or construction of new semiconductor plants and data centers.

Historical and projected electric power demand

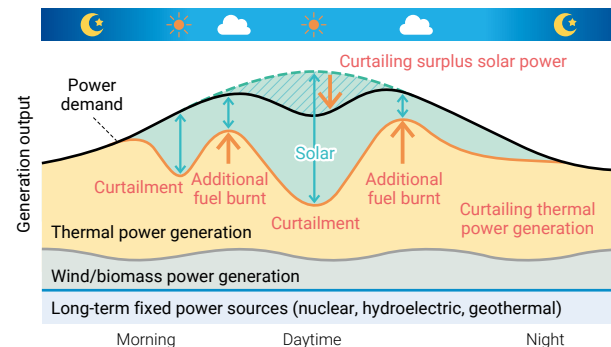


Source: Created by J-Power based on the Electric Power Investigation Statistics by the Agency for Natural Resources and Energy and "FY2025 Forecast on Electricity Demand Nationwide and by Regional Service-Area" by OCCTO

Power Supply in Japan

Conventionally, among the power generation facilities supplying electricity in Japan, baseload power sources were centered on coal-fired thermal, nuclear, and general hydroelectric power generation which are capable of continuous operation at relatively low unit cost, while LNG- and oil-fired thermal and pumped storage hydroelectric power generation served as intermediate load and peak load power sources to supplement fluctuating demand. In recent years, renewable energies came to account for nearly the majority of the electricity supply, especially during daytime hours, as a result of massive sourcing of renewable energies.

However, when electricity produced from solar power generation declines due to unfavorable weather or during nighttime, thermal power sources, including coal-fired power, serve as an intermediate load power source with adjustment capability in the power supply of the country. Therefore, thermal power sources still play a major role in terms of capacity to sustain the stable power supply in Japan, even though their capacity factors have been declining.



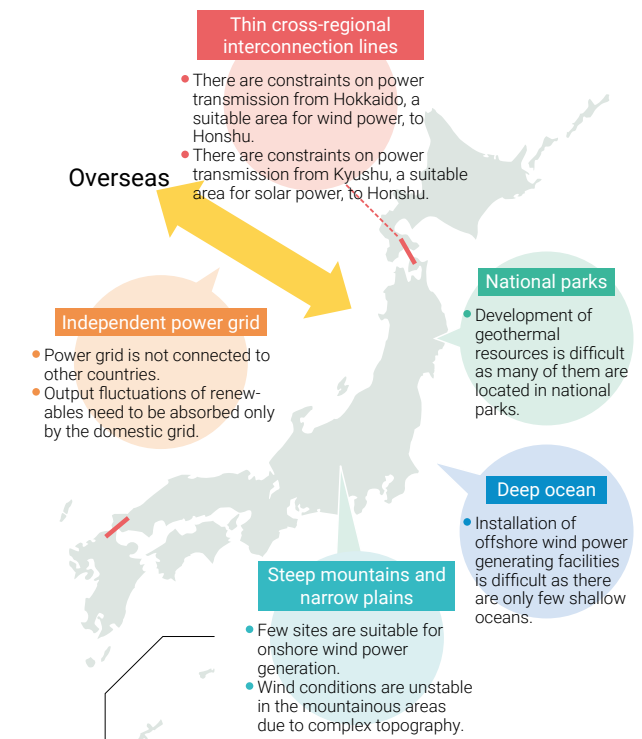
[P.31 Our initiatives to shift the role of coal-fired power to an intermediate power source \(GENESIS Matsushima\)](#)

[P.57 Our initiatives for transition of thermal power source \(7 thermal sites\)](#)

Meanwhile, to achieve a carbon-neutral society by 2050, we are requested a transition of future thermal power sources to zero CO₂-emission thermal power. The government has set out

a policy of phase-out of inefficient coal-fired thermal power plants with supercritical (SC) or lower conditions by 2030.

Future expansion of renewable energy is subject to geo-graphical constraints, as Japan is a mountainous land with few shallow oceans. The key to the future expansion of renewable energy lies in the prompt development of promising sites based on the understanding of local communities and the effective utilization of existing sites. Offshore wind power, which is expected to be a large-scale, stable renewable energy source, has limited availability for development in the next few years partly due to capacity constraints in the power grid that connects promising sites with large demand areas.



[P.33 J-POWER Group's initiatives for enhancing power networks](#)

[P.27 Our initiatives for renewable energy development](#)