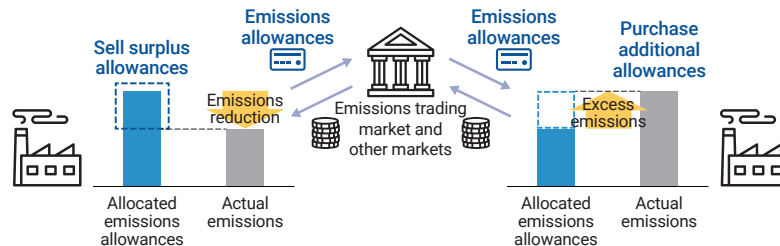


Trends in Policies to Achieve Carbon Neutrality

In Japan, policies aimed at achieving both decarbonization and industrial competitiveness have been gaining momentum toward the realization of carbon neutrality by 2050. Against this backdrop, under the framework of Japan's green transition (GX) policy, the emissions trading system (GX-ETS) and the Long-Term Decarbonization Power Source Auction have been introduced and developed as market-based mechanisms to promote investment in decarbonization. These mechanisms are designed to provide incentives for reducing greenhouse gas emissions while enhancing medium- to long-term business predictability for investments in decarbonized power sources. Accordingly, both mechanisms are expected to have a significant impact on the business environment and revenue opportunities of electric utility companies.

Overview of the GX-ETS

GX-ETS will be fully implemented from FY2026 for businesses with average direct CO₂ emissions of 100,000 tons or more over the three fiscal years from FY2023 to FY2025. Under the scheme, the government allocates emissions allowances to covered entities based on specified criteria, and they are required to hold emissions allowances equivalent to their actual emissions each fiscal year. Covered entities may trade emissions allowances in the emissions trading market and other markets to address any surplus or shortfall in their emissions allowances.



Source: Ministry of Economy, Trade and Industry (METI), "Overview of the Emissions Trading System"

The allocation of emissions allowances to the power generation sector under the GX-ETS is designed to be reviewed on a phased basis. For FY2026 through FY2028, emissions allowances will be allocated based on emissions intensity benchmarks established for each fuel type (coal, LNG, oil, etc.) From FY2029 onward, the fuel type-specific emissions intensity benchmarks will be gradually combined with the average emissions intensity for all thermal power generation.

Allocation formula

Allocation = Baseline activity level (average electricity generation over FY2023–FY2025) × Target emissions intensity (Power generation BM level)

Power generation BM level = All-thermal BM level × α% + Fuel-specific BM level × (100 – α)%

All-thermal BM level: Weighted average of the fuel-specific BM levels based on the power generation share of each fuel type

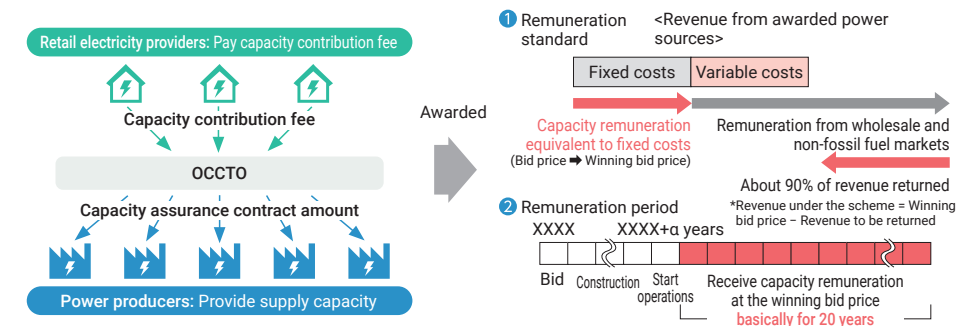
Fuel-specific BM level: top x%* of power producers' fuel-specific BM indicators

*Linearly reduced from the base-year level (equivalent to the top 50%) to the FY2030 level (equivalent to the top 32.5%)

FY	2026	2027	2028	2029	2030
α	0	0	0	20	40

Overview of Long-Term Decarbonization Power Source Auction

The Long-Term Decarbonization Power Source Auction was introduced against the backdrop of uncertainty over investment recovery for power sources requiring substantial upfront investment, such as renewable energy and nuclear power, as efforts to decarbonize the power sector progress. The scheme is expected to facilitate the transition of the future power supply mix while promoting both the expansion of decarbonized power sources and a stable power supply by enhancing long-term revenue visibility. Under the scheme, capacity contribution fee paid by retailers are used as the funding source to secure, in principle for 20 years, capacity remuneration equivalent to fixed costs for awarded power sources, thereby enhancing the long-term predictability of return on investment.



Source: Partially compiled from the Agency for Natural Resources and Energy, "Long-Term Decarbonization Power Source Auction"

Capital Cost Level Reflected in the Bid Price

Under the Long-Term Decarbonization Power Source Auction, the bid price is calculated based on the total fixed costs, including construction costs and operation and maintenance costs. In addition, bidders are permitted to incorporate the expected capital cost into the bid price, taking into account the long-term investment risks. The capital cost that may be incorporated into the bid price is specified for each power source according to its construction period and associated risks. For example, a pre-tax WACC of 5% is applied to solar, wind, and geothermal power projects that have not yet completed environmental impact assessments, while a pre-tax WACC of 6% is applied to nuclear power and hydroelectric power projects that have not yet completed environmental impact assessments.

Response to Inflation and Fixed Cost Increases

Because the scheme is based on long-term revenue over a period of 20 years in principle, it includes a mechanism under which the contract price is adjusted annually in line with a price index throughout the contract period to mitigate the decline in the real value of revenue due to inflation and ensure the predictability of fixed cost recovery.

In addition, for the construction or replacement of large-scale power sources with long construction lead times, even if additional costs arise due to regulatory compliance or other factors, such costs may be reflected in the contract price, up to 1.5 times the winning bid price. The scheme is therefore designed with due consideration for the certainty of long-term investment recovery.