Trends in Policies to Achieve Carbon Neutrality

In order to achieve a 46% reduction in greenhouse gas emissions by FY2030 and carbon neutrality by 2050 and to establish an energy supply and demand structure for stable, low-cost energy supply, the Japanese government has established the Basic Policy for the Realization of GX and promoted the development of regulations, structures, and policies to support businesses. The J-POWER Group will promote initiatives to achieve carbon neutrality while also utilizing various government incentives in accordance with the Basic Policy.

O Various Policies to Achieve Carbon Neutrality



GX Economy Transition Bonds

In order to support the advance investment for achieving green transformation (GX), the government plans to issue GX Economy Transition Bonds (decarbonized growth-oriented economic structure transition bonds) amounting to 20 trillion yen in the 10 years from FY2023, with the aim of realizing public-private investment totaling more than 150 trillion yen. GX Economy Transition Bonds will be redeemed by FY2050 through a fossil fuel levy and specified business contributions (e.g., paid auctions to power producers).

Carbon Pricing

The government has decided to introduce a carbon pricing system to increase the value of GX-related products by pricing carbon emissions.

Fossil Fuel Levy

Fossil fuel importers will be charged the fossil fuel levy based on the amount of CO_2 from the fossil fuel they import beginning in FY2028.

2 Emissions Trading System

From FY2033, power producers will be allocated CO₂ emission quotas (amounts) partially at cost and will be charged the specified business contributions based on the amount. The specific allocation and unit price of the paid emission quota will be determined through a bidding process (paid auction).

O GX Economy Transition Bonds and Carbon Pricing



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Business Environment for Carbon Neutrality

GX League

The GX League was established based on the GX League Basic Concept announced by the Ministry of Economy, Trade and Industry in February 2022. It is a forum for practical cooperation among a group of companies actively engaged in green transformation (GX) to discuss the transformation of the entire socio-economic system and create new markets together with government, academic, and financial players who are taking on the challenges of GX.

In April 2023, the companies participating in the GX League launched the autonomous emissions trading system (GX-ETS). In preparation for the full-scale operation of the ETS, which is scheduled to begin in FY2026 or later, the GX League is collecting data for rulemaking and operational improvements, and accumulating insights and knowhow.

Long-Term Decarbonization Power Source Auction

With insufficient construction and replacement of power sources due to the lower market price resulting from the expanded sourcing of renewable energy, there is a concern that existing power plants will be closed, resulting in a medium to long-term shortage of power supply capacity. Then, the Long-term Decarbonization Power Source Auction was introduced to improve the predictability of power producers' investment recovery, with the aim of achieving stable supply in the medium to long term and facilitating investment in decarbonization power sources. In principle, capacity market remuneration at the winning bid price will be paid for the power sources purchased in the auction over a 20-year period. The first auction was held in January 2024, and the bidding results were announced in April 2024.

O Overview of Long-Term Decarbonization Power Source Auction

Power producers: Provide supply capacity



Source: Partially compiled from the document released in June 2023 by the Organization for Cross-regional Coordination of Transmission Operators, JAPAN (OCCTO)

O Target	power	sources	of	the	long-term	decar	bonization	auction
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Target	Type of power sources	Fuel or generation system	Single/mixed fuel	Construction & replacement/ renovation	
	Thormal	Hydrogen or ammonia	Single/mixed fuel	Construction & replacement/ renovation	
	merman	Biomass	Single fuel	Construction & replacement/ renovation	
Decarbonized nower	Battery	-	-	Construction & replacement	
source	Hydroelectric	Pumped storage	-	Construction & replacement	
		General (reservoir type)	-	Construction & replacement	
		General (run-off-river-type)	-	Construction & replacement	
	Geothermal	-	-	Construction & replacement	
	Nuclear	-	-	Construction & replacement	
LNG-fired thermal power	Thermal	LNG-fired	Single fuel	Construction & replacement	

Master Plan for Wide-Area Interconnected Grid

OCCTO announced in March 2023 the Master Plan for Wide-Area Interconnected Grid to present a long-term prospect for the future development of the wide-area grid and initiatives to crystalize the prospect with a view to achieving carbon neutrality by 2050.

In the Master Plan, the introduction of high-voltage direct current (HVDC) transmission is being discussed, which is considered advantageous in terms of cost, transmission efficiency, operational flexibility, and grid stability. This is because suitable locations for renewable energy installations are concentrated in Hokkaido, Tohoku, and Kyushu, creating the need for long-distance transmission of massive power to major-consuming areas.

Image of the cross-regional interconnection line expansion and new construction in "Master Plan"

