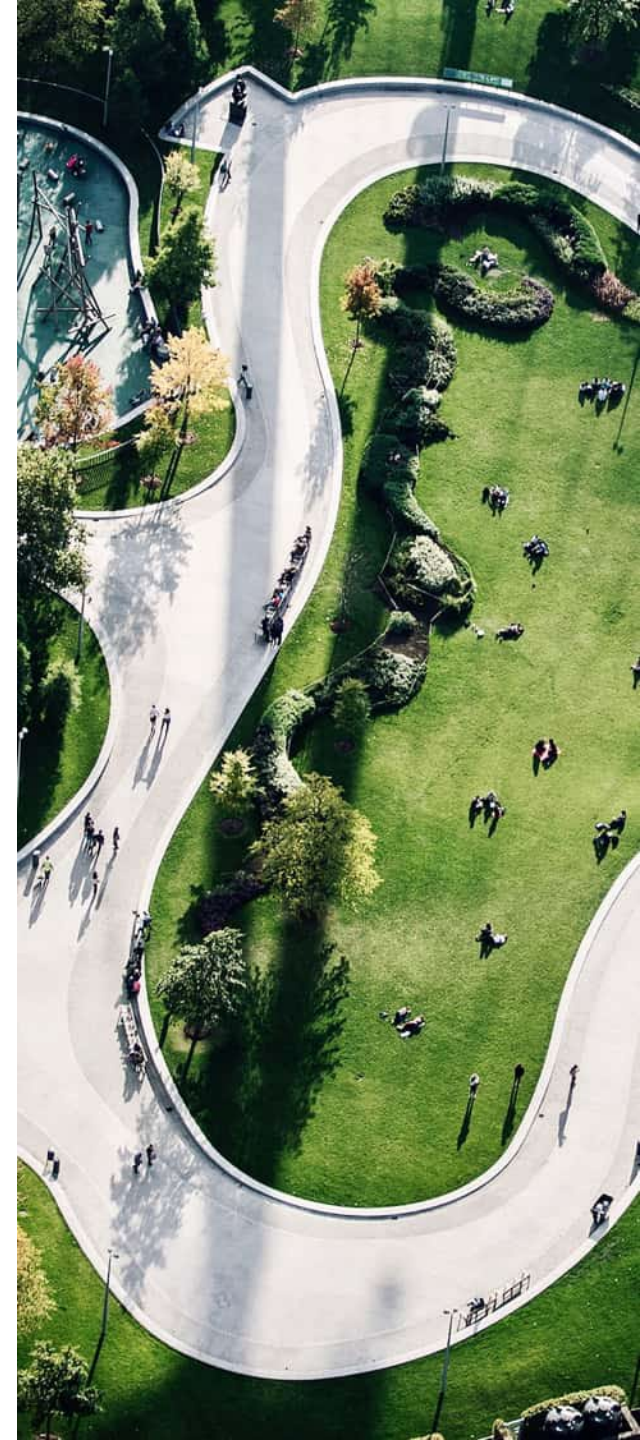


Japan's GX Policy and Carbon Pricing Trends

Nomura Research Institute, Ltd.
Sustainability Business Consulting Department
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Executive Summary

- In Japan, the declaration of carbon neutrality in 2050 by then Prime Minister Suga in October 2020 triggered a flurry of discussions on carbon pricing. In 2022, policies for realizing the Green Transformation (GX) of the industry structure toward carbon neutrality in each industry in Japan were discussed under the title of the GX Implementation Conference, and in February 2023, the Cabinet approved the "Basic Policy for Achieving GX" and the "Overall Roadmap for the Next 10 Years." At these assemblies, the "Growth-oriented carbon pricing initiative" was presented, which includes advance investment support using "GX Economic Transition Bonds," etc., incentives for GX investment through carbon pricing, and utilization of new financial methods. The "GX Promotion Bill" was enacted in May 2023, which summarizes related bills to realize the basic policy for realizing GX.
- In the past, the emission trading system in Japan had only been a trial system (Japan's Voluntary Emissions Trading Scheme (JVETS)) run by the Ministry of the Environment and emission trading systems by local governments such as those run by Tokyo and Saitama, but these only played a limited role as carbon pricing due to its nature as a trial scheme, and also due to its limited emission coverage. However, in fiscal year 2023, the Phase 1 of GX-ETS, Japan's first nationwide emission trading system, was started as a trial and voluntary framework. The basic concept of GX-ETS is "pledge and review," which is based on the disclosure of the participants' emission targets and the implicit governance from the financial and capital markets, in contrast to the conventional concept of compliance with government regulations. The GX-ETS is designed for gradual development beyond Phase 1, and it is stipulated that from Phase 3 (post-fiscal year 2033), a gradual introduction of an auction mechanism will be implemented for the power generation sector (i.e. phase out of the "free-allocation" will be implemented).
- In Japan, there are currently two regulated carbon credit systems operated by the national government: the Joint Crediting Mechanism (JCM) and the J-Credit Scheme. To increase the amount of credit generated in the future, JCM is expanding the number of partner countries and privately funded projects, and J-Credit is considering expanding its methodology and applying for CORISA eligibility. On the demand side, the use of credit by Japanese companies has been limited in the past, as the use of J-Credit is permitted under the national mandatory emission reporting system. However, it is expected that the use of credit will expand in the future, including the achievement of private initiatives such as CDP, SBT, and RE100, the means to achieve voluntary targets, and the provision of carbon offset products and services. On the supply side, there is a growing movement toward the establishment of exchanges and related services in anticipation of the future expansion of credit trading needs. The Japan Stock Exchange launched a carbon credit market for J-Credit in October 2023. It is expected to increase the volume and convenience of carbon credit transactions in Japan.

1. Trends in Japan's GX Policy

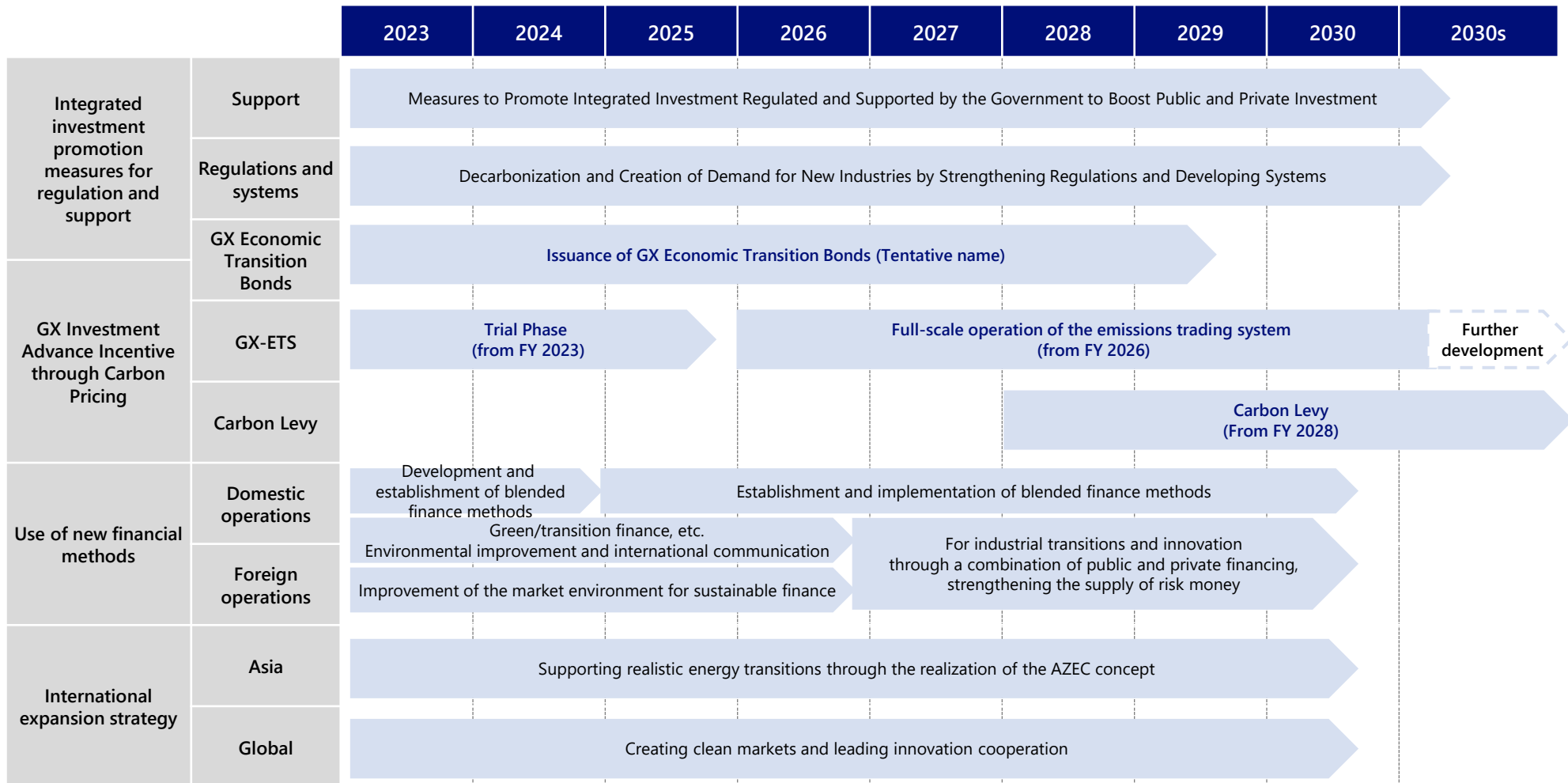
2. Trends in Japan's Emissions Trading System

3. Trends in Japan's Carbon Credit and its Trading Market

1. Trends in Japan's GX Policy

In December 2022, Japan formulated the "Basic Policy for the Realization of GX and a Roadmap for the Next 10 Years," which calls for the realization of a GX investment incentive through carbon pricing.

Outline of basic policy for realizing GX



1. Trends in Japan's GX Policy

In February 2023, the GX Promotion Act was approved by the Cabinet, which includes “(3) Introduction of growth-oriented carbon pricing”, including the introduction of carbon levies and the paid auction of emission allowances in the emission trading system starting from the fiscal year 2033.

Outline of the GX Promotion Act

(1) Formulation and Implementation of GX Promotion Strategy

- The government has formulated a strategy to promote GX in a comprehensive and systematic manner (Decarbonized Growth Economic Structure Transition Strategy). The strategy examines the transition to a GX economy and reviews it appropriately.

(2) Issuance of GX transition bonds

- The government will issue GX Economic Transition Bonds for 10 years from fiscal 2023 to support upfront investment to realize the GX promotion strategy.
- The GX Economic Transition Bonds will be redeemed through a fossil fuel levy and a specific business operator burden fee. The bonds will be redeemed by fiscal 2050.

(3) Introduction of growth-oriented carbon pricing

- ① Introduction of a carbon levy (fossil fuel levy): Starting in fiscal year 2028, the Minister of Economy, Trade and Industry will impose a fossil fuel levy on fossil fuel importers in accordance with the amount of CO2 derived from fossil fuels that is imported.
- ② Emissions Trading System: Starting in fiscal year 2033, the Minister of Economy, Trade and Industry will allocate CO2 emission allowances to power generators for a partial fee and levy a specific business operator burden fee in accordance with the amount. The specific allocation of emission allowances for a fee and the unit price will be determined by bidding method (Paid Auction).

(4) Establishment of GX Promotion Organization

- The GX Promotion Organization is established with the approval of the Minister of Economy, Trade and Industry.
- Operations of the GX Promotion Organization: (1) support for private companies' investment in GX (financial support (debt guarantee, etc.)), (2) collection of fossil fuel levies and contributions from specified business operators, (3) operation of an emissions trading system (allocation of emission allowances for specified business operators, bidding, etc.), etc.

(5) Progress evaluation and necessary review

- Based on the implementation status of GX investment, etc., and domestic and overseas economic trends related to CO2 emissions, etc., measures should be reviewed and necessary review based on the results.
- The detailed system design for the fossil fuel levy and the emissions trading system should be reviewed, including concrete measures for the full-scale operation of the emissions quota trading system, and necessary legislative measures should be taken within two years after the enforcement of this Act.

1. Trends in Japan's GX Policy

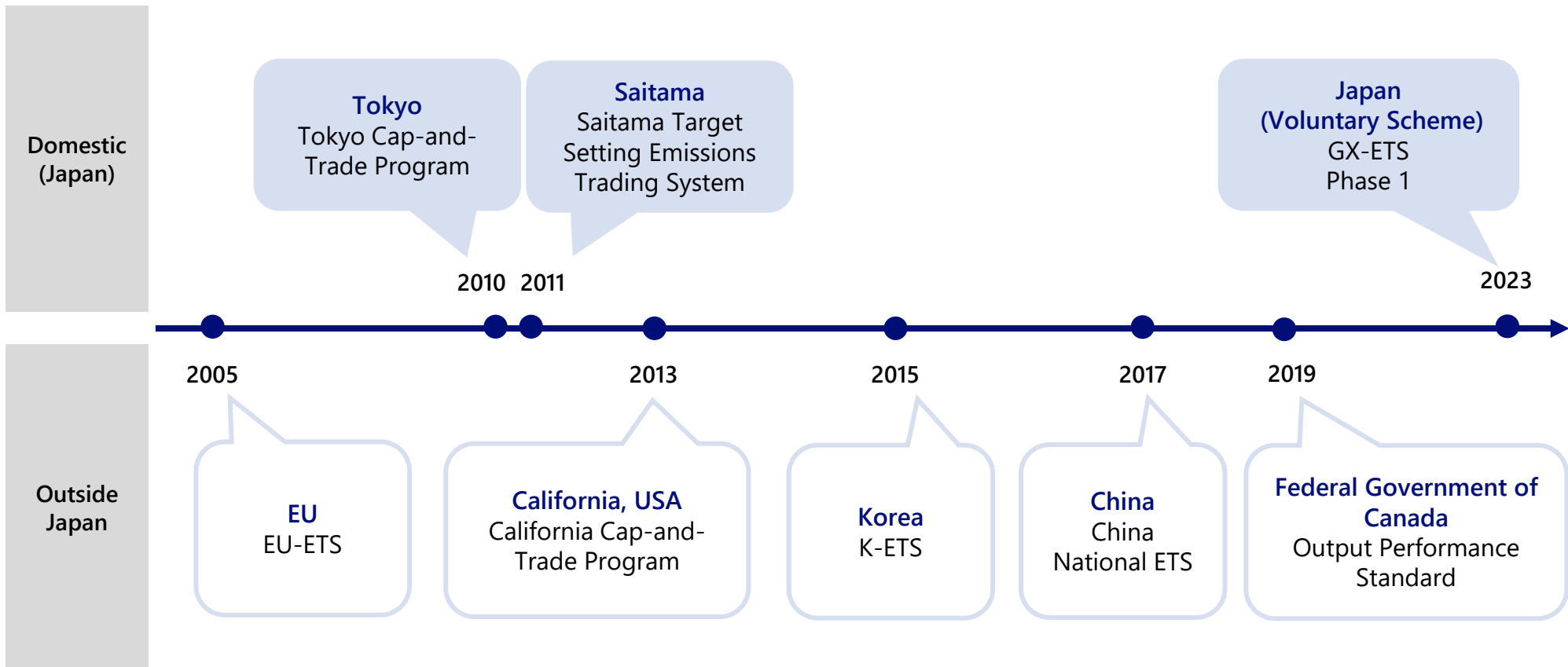
2. Trends in Japan's Emissions Trading System

3. Trends in Japan's Carbon Credit and its Trading Market

2. Trends in Japan's Emissions Trading System

In Japan, the GX-ETS, the first Emissions Trading System(ETS) on a nationwide scale, was launched in fiscal year 2023, in addition to the existing ETS implemented by local governments.

Introduction of the Emissions Trading System



2. Trends in Japan's Emissions Trading System

Compared with the JVETS introduced on a trial basis and the Tokyo/Saitama ETS implemented by local governments, the GX-ETS is expected to cover a wider range of emissions due to the participation from a large proportion of companies from emission intensive industries.

Comparison of Japan's Emissions Trading System

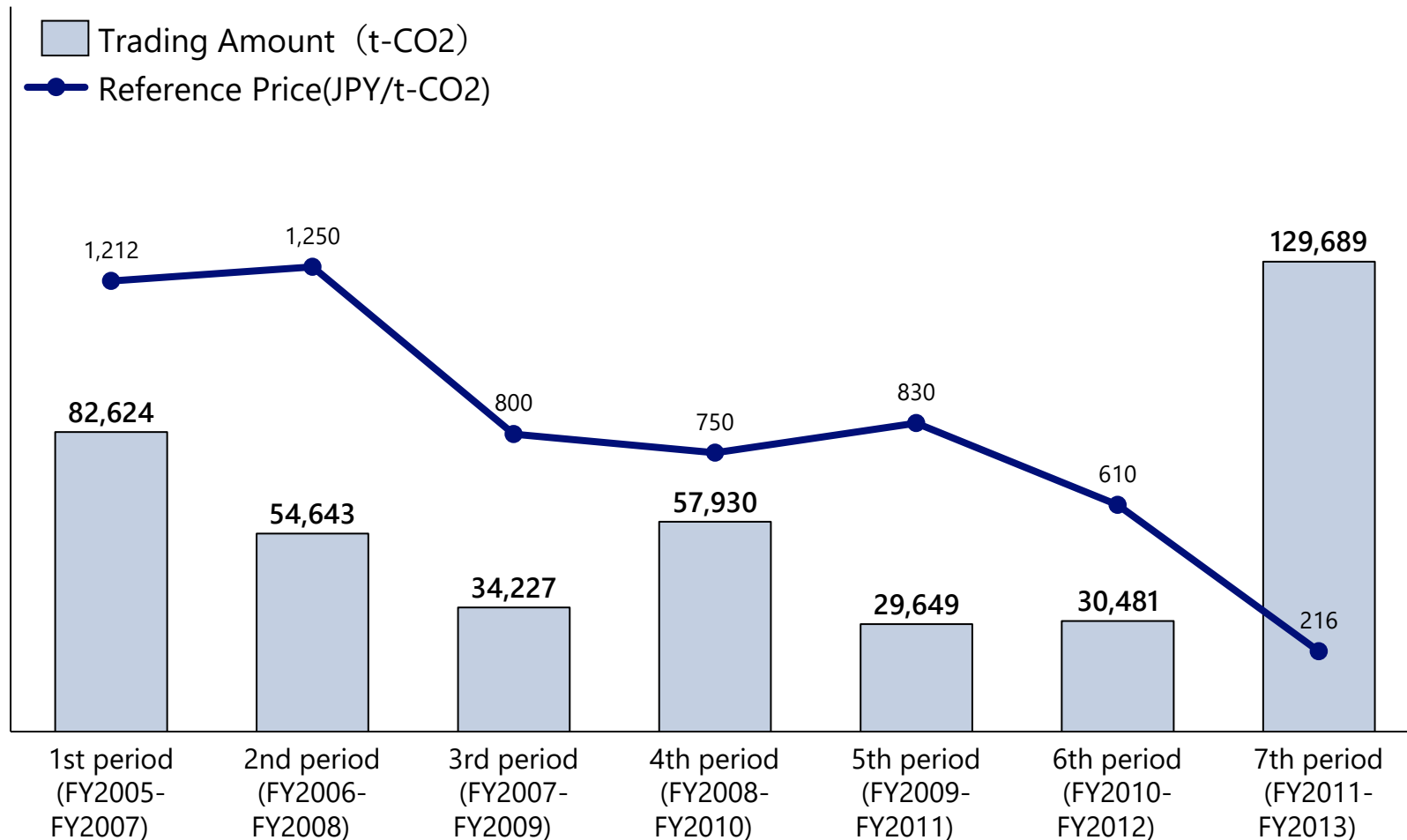
	JVETS	Tokyo	Saitama	GX-ETS
Mandatory/ Voluntary	Voluntary System (Trial System)	Mandatory system	Mandatory system	Voluntary system
Starting year	FY 2005	FY 2010	FY 2011	FY 2023
Status	Closed	Live	Live	Live (Phase 1: Trial Phase)
System Operator	The Ministry of the Environment	Tokyo Metropolitan Government	Saitama Prefecture	The Ministry of Economy, Trade and Industry and the GX League Office
Geographical scope	Japan	Tokyo Metropolitan Area	Saitama Prefecture	Japan
Organizational unit	Business unit	Business unit	Business unit	Corporate unit (including subsidiaries)
Participating industries	Primarily manufacturing	Primarily business building owners	Primarily business operators with manufacturing bases	All industries, including a large portion of emission-intensive industries
Participants	Total of 389 companies (Voluntarily participating companies)	Approximately 1,300 offices (Mainly business buildings)	Approximately 600 sites (Mainly business buildings and factories)	GX League Participating Companies (Approximately 500 +)
Trading Volume (t-CO₂)	Approx. 420,000 tons (in 7 fiscal years)	Approximately 5.01 million tons (from FY2011 to FY2020)	Approximately 396,000 tons (2nd reduction period)	N/A (Trading not yet started)
Transaction Price	<ul style="list-style-type: none"> First Period Average: ¥1,212/t-CO₂ Seventh Period Average: ¥216/t-CO₂ 	<ul style="list-style-type: none"> ¥200 ~1,000/t-CO₂ (Reference price published by the Tokyo Metropolitan Government) 	<ul style="list-style-type: none"> ¥144/t-CO₂ (Declared price for the second reduction period) 	N/A (Trading not yet started)

Source: Nomura Research Institute (Nomura Research Institute)

2. Trends in Japan's Emissions Trading Scheme

The emissions trading and trading prices JVETS are as below (the scheme is now closed):

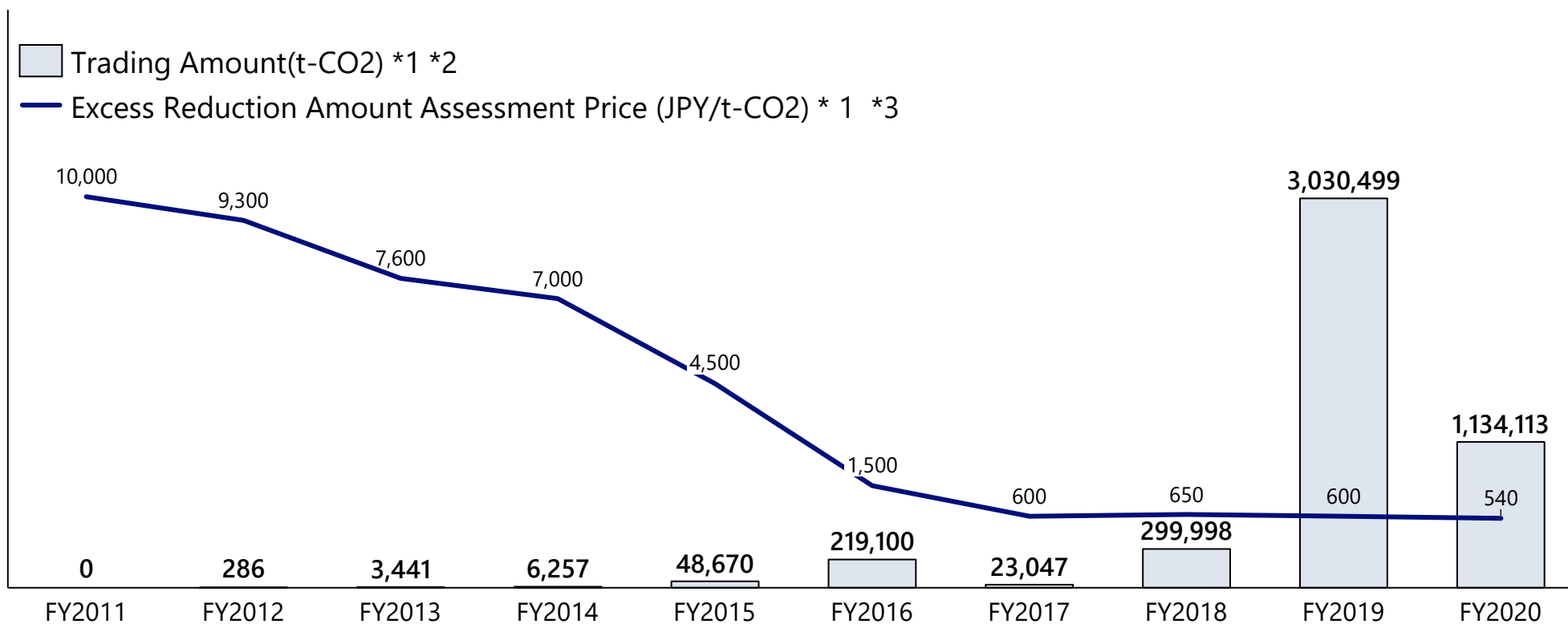
Trends in Emissions Trading Volume and Trading Price in JVETS



2. Trends in Japan's Emissions Trading System

Emissions trading and reference prices under the Tokyo Cap-and-Trade Program are as follows:

Trends in Emissions Trading Volume and Transaction Price under the Tokyo Cap-and-Trade Program



*1 Excluding transaction volume and transaction price of other credits approved by the Tokyo Metropolitan Government

*2 The transaction volume indicates the transfer base volume between general management accounts for each fiscal year, which is announced by the Tokyo Metropolitan Government

*3 At the time of the commencement of the system, the 2023 year price is based on the assessment price announced by the Tokyo Metropolitan Government and the actual transaction price is determined by the negotiation of the buying and selling parties. Therefore, there is a possibility that the price may differ significantly from the value shown here depending on the type of transaction and the size of the transaction lot.

Source: Tokyo Metropolitan Environment Bureau, "Results of Emissions Trading and Intention of Businesses Concerning Emissions Trading, etc." December 2020

Mizuho Research Technologies Co., Ltd., "Total Reduction Obligations and Reference Quotas for Emissions Trading System Trading Prices," prepared by Nomura Research Institute from December 2022

2. Trends in Japan's Emissions Trading System

The status of achievement of targets under the Saitama Target Setting Emissions Trading System is as follows:

Trends in Emissions Trading Volume and Trading Price under Saitama Target Setting Emissions Trading System

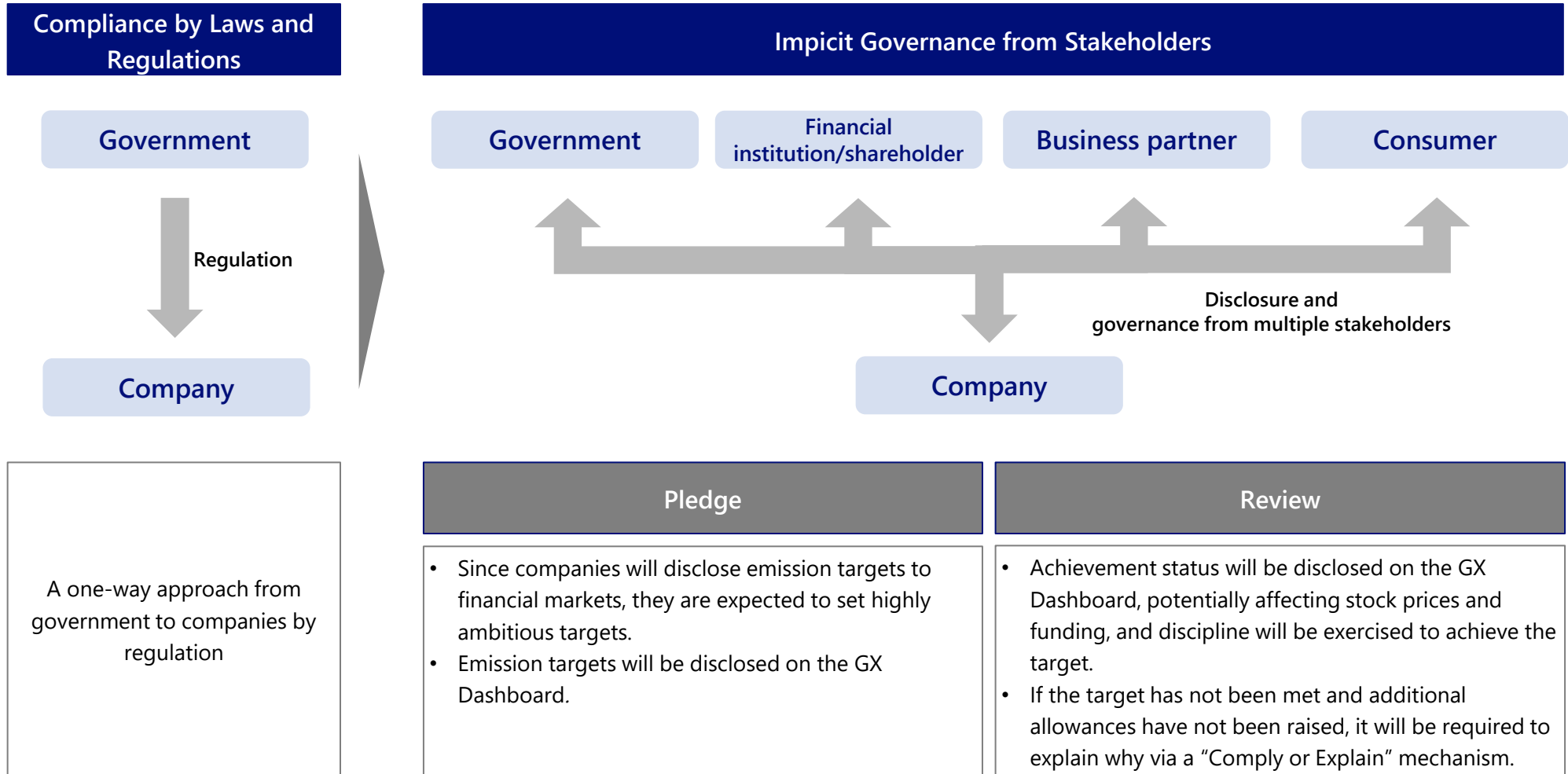
	Business Building, etc.	Factory, etc.	Total	
Achievement Status (Number of Establishments)	Number of Business Sites	185 Business sites	445 Business sites	630 Business sites
	Number of Business Sites Achieving the Target (Achievement Rate)	181 Business sites (98%)	437 Business sites (98%)	618 Business sites (98%)
	(of which) Achieved the target by reducing emissions in the the second plan period or exceeding the amount of reduction in the the first plan period	155 <i>Business sites</i>	372 <i>Business sites</i>	527 <i>Business sites</i>
	(of which) Achieve targets through emissions trading	26 <i>Business sites</i>	65 <i>Business sites</i>	91 <i>Business sites</i>
Achievement Status (Overall Reduction Rate)	Standard Emissions	8.23 million tons -CO2	44.19 million tons -CO2	52.41 million tons -CO2
	Target reduction rate	15%	13%	-
	Actual reduction rate	28%	29%	29%

Of the sites that failed to achieve their targets through their own reductions, 91 met their targets through emissions trading with other sites. (Total trading volume was 396,000 tons)

2. Trends in Japan's Emissions Trading System

In GX-ETS, the aim is to promote “implicit governance” for companies from various stakeholders, including the financial and capital markets.

Discipline from various stakeholders

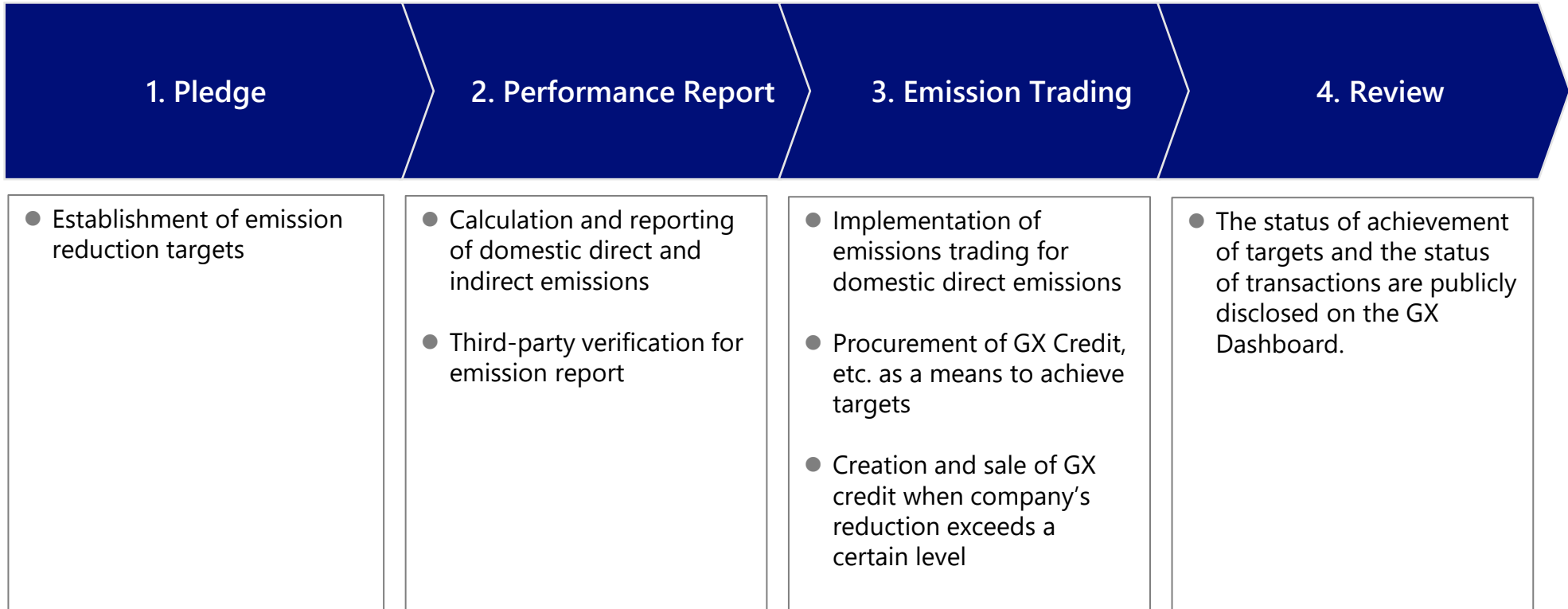


Source: Nomura Research Institute, based on "The concept of emissions trading in the GX League, which will be fully operational from next fiscal year"

2. Trends in Japan's Emissions Trading System

Companies participating in the GX-ETS establish targets (Pledges) in advance and carry out emissions reporting and emissions trading. Achievement of targets is published on the GX dashboard (Review).

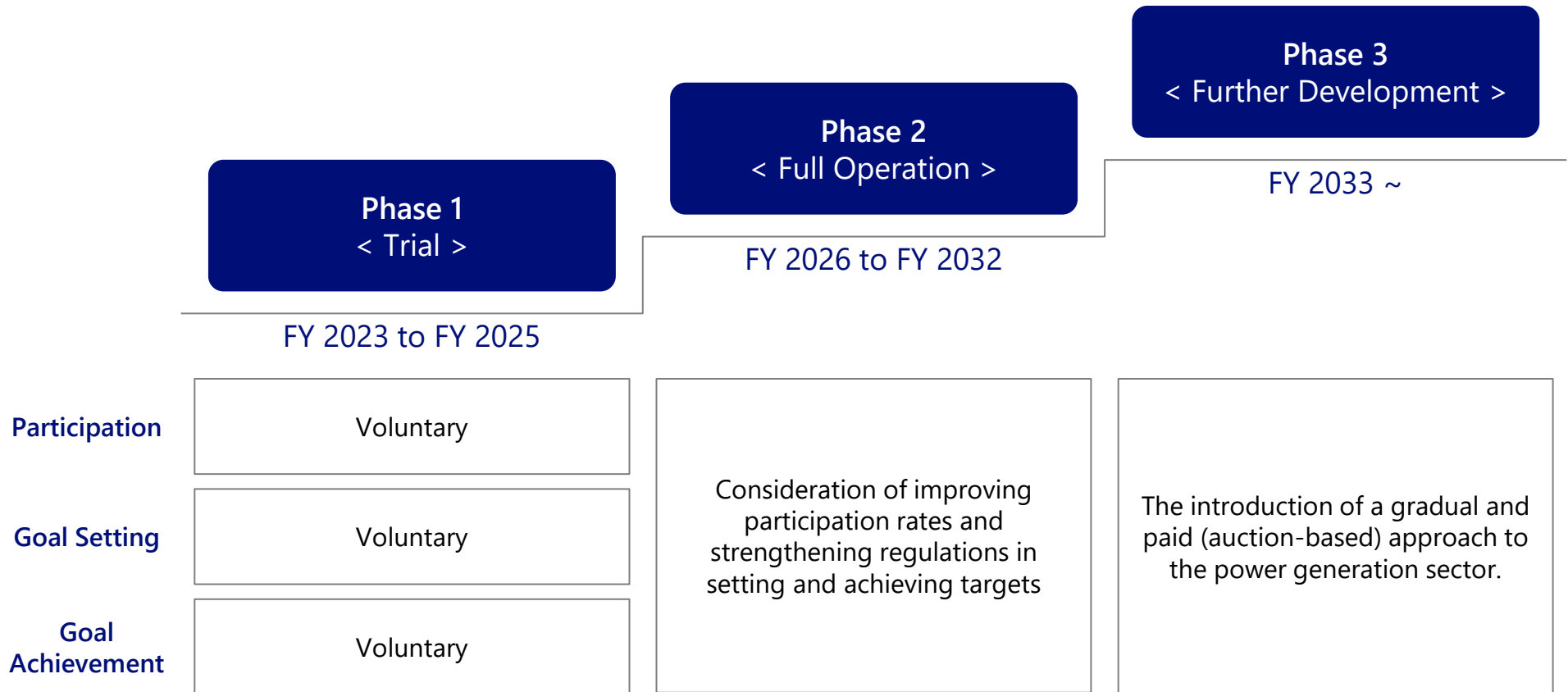
Flow of the first phase of GX-ETS



2. Trends in Japan's Emissions Trading System

The first phase of GX-ETS is a voluntary scheme, but it is envisioned to gradually develop further in the future.

Stepwise Development of Emissions Trading



1. Trends in Japan's GX Policy

2. Trends in Japan's Emissions Trading System

3. Trends in Japan's Carbon Credit and its Trading Market

3.Trends in Japan's Carbon Credit Trading Market

In Japan, there are two types of credit systems that are considered to be compliance credits: the Joint Crediting Mechanism (JCM) and the J-Credit Scheme.

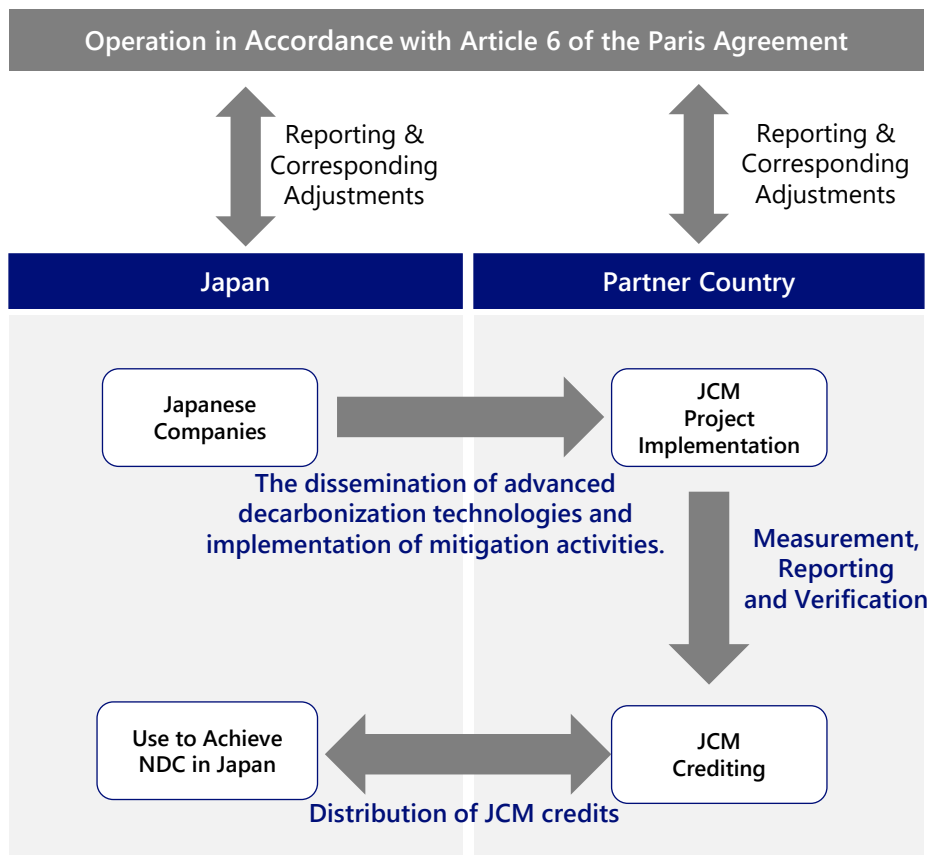
Types of Carbon Credit

	Compliance Credit		Voluntary Carbon Credits
Classification	International Credit Mechanism	Regional, national, and local credit mechanisms	Independent Credit Mechanism
Operating Entity	International organization	National and local governments and public bodies	NGOs and other private organizations
Overview	<ul style="list-style-type: none"> • Mechanism governed by international climate treaties • It is positioned as a means to achieve the emission reduction targets committed between countries under the Kyoto Protocol and the Paris Agreement, and is operated by an organization established by an international treaty. 	<ul style="list-style-type: none"> • A mechanism that is independently managed by a particular region or country, or by each country, local government, or public entity • It is mainly used for compliance with national regulations by companies, voluntary reduction activities, and achievement of reduction targets in emitting countries 	<ul style="list-style-type: none"> • A mechanism that is not governed by national regulations or international treaties and is primarily governed by an independent, private, third-party organization • It is used by companies for voluntary reduction activities, and in some cases it is used in response to national regulations
Example	<ul style="list-style-type: none"> • JI: Joint Implementation Mechanism • CDM: Clean Development Mechanism 	<ul style="list-style-type: none"> • <u>JCM:Joint Crediting Mechanism (Japan + Partner countries)</u> • <u>J-Credit Scheme (Japan)</u> • China GHG Voluntary Emission Reduction Program (China) • Australia ERF (Australia) 	<ul style="list-style-type: none"> • VCS: Verified Carbon Standard • GS :Gold Standard • ACR: American Carbon Registry

3.Trends in Japan's Carbon Credit Trading Market

The Joint Crediting Mechanism (JCM) is a system in which Japan's advanced decarbonization technologies and products are disseminated to partner countries. In return an agreed portion of the emission reductions are credited and used for Japan's reduction targets.

Overview of Joint Crediting Mechanism(JCM)



Future Objectives and Initiatives of JCM

<p>Goal</p>	<p>Ensuring the international GHG emission sources and absorption volume to achieve a cumulative amount of approximately 100 million tonnes of CO2 by the year 2030.</p>
<p>Initiatives (1) Expansion of partner countries</p>	<ul style="list-style-type: none"> • Increase the number of partner countries to 30 by FY2025 (27 countries as of now)
<p>Initiatives (2) Expansion of Private Funded Projects</p>	<ul style="list-style-type: none"> • Implementation of various initiatives to promote the formation of private projects, with a focus on more flexible private funding, instead of the previously predominant government-funded projects supported by the Japanese government.

3.Trends in Japan's Carbon Credit Trading Market

As of September 2023, the JCM as had 101 registered methodologies, with a focus on renewable energy and energy efficiency related projects

JCM Methodology in each partner countries

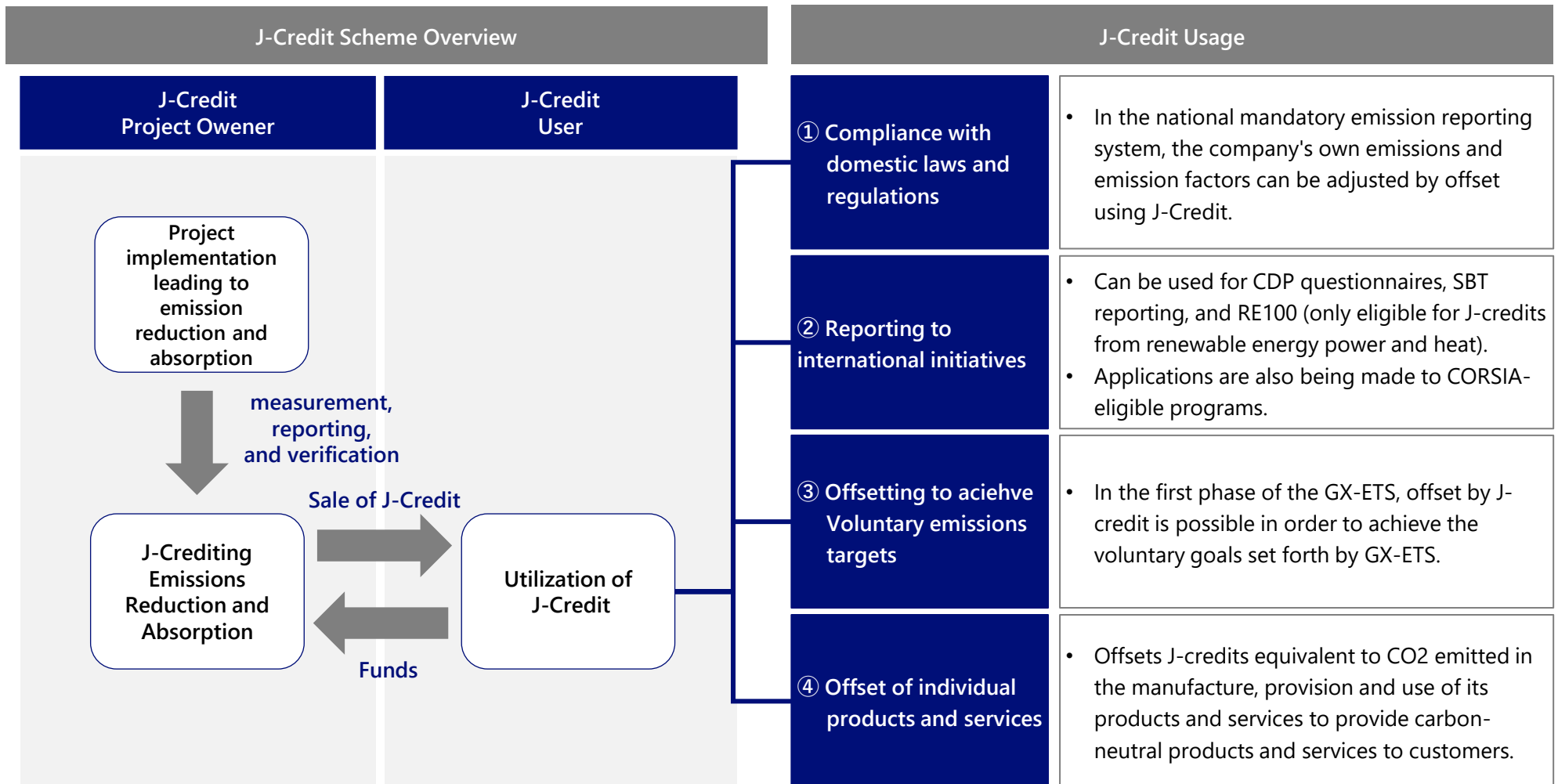
Target Countries	Main Sectoral Scope	Number of Methodology Registrations	Example Methodology
Indonesia	Energy Industry, Demand, and Manufacturing	22 cases	<ul style="list-style-type: none"> Electricity generation by waste heat recovery in cement industry Optimization of operating efficiency at refineries
Vietnam	Energy supply, industry, demand, transport	15 cases	<ul style="list-style-type: none"> Improving transportation energy efficiency by introducing a digital tachograph system Introduction of electrocution equipment
Thailand	Energy Industry, Demand, Manufacturing	9 cases	<ul style="list-style-type: none"> Energy saving by introducing oil-free multi-stage air compressor Introduction of high-efficiency looms
Cambodia	Energy industry and demand, afforestation and reforestation	5 cases	<ul style="list-style-type: none"> Introduction of LED streetlight system with wireless network control Prevention of forest degradation and decline through forest conservation
Myanmar	Energy Industry, Demand, Waste Disposal and Public Cleansing	4 cases	<ul style="list-style-type: none"> Avoidance of power generation and landfill gas emissions by write-off of municipal waste Introduction of chaff power generation
Mongolia	Energy Supply and Industry	3 cases	<ul style="list-style-type: none"> Introduction of energy-saving transmission lines in grid power systems Introduction and replacement of high-efficiency heat supply boilers for hot water supply systems
Costa Rica	Energy Industry and Demand	3 cases	<ul style="list-style-type: none"> Introduction of photovoltaic systems Introduction of heat pump type electric water heater for hot water supply system
Ethiopia	Energy Industry and Demand	3 cases	<ul style="list-style-type: none"> Electrification of non-electrified areas by small hydropower generation Introduction of biomass cogeneration
Other countries	Kenya, Laos, Philippines, Maldives, Mexico, Chile, Palau, Saudi Arabia, Bangladesh, etc.		

Approximately 130,000 tonnes of CO2 credits have been issued cumulatively.

3.Trends in Japan's Carbon Credit Trading Market

The J-Credit Scheme was established in fiscal year 2013 to further promote the reduction and absorption of greenhouse gases in Japan, and is administered by several ministries and agencies, including the Ministry of Economy, Trade and Industry.

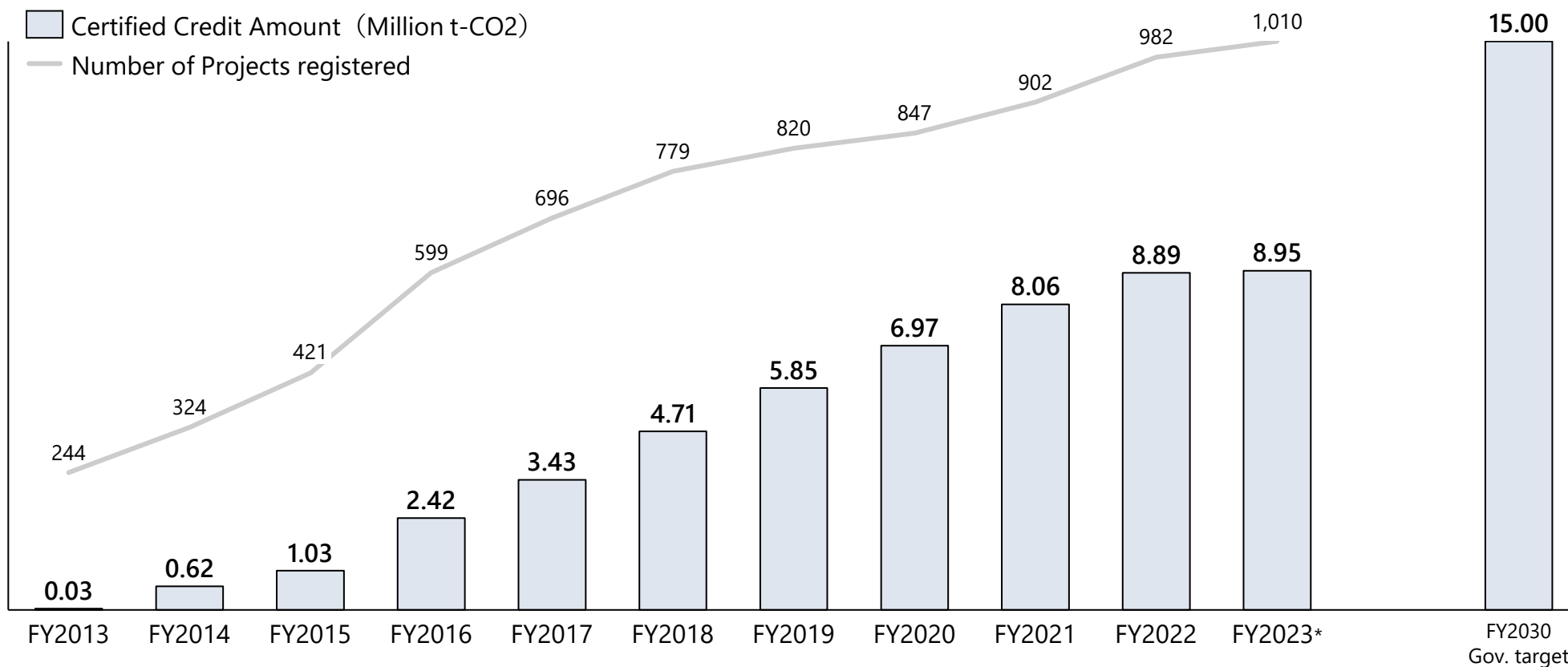
Overview of J-Credit



3.Trends in Japan's Carbon Credit Trading Market

The number of registered and certified J-Credit projects has been increasing year by year. In FY2023, the number of registered projects exceeded 1,000 and the amount of certified projects was 8.95 million t-CO₂.

Trends in the number of J-Credit project registrations and certification volume



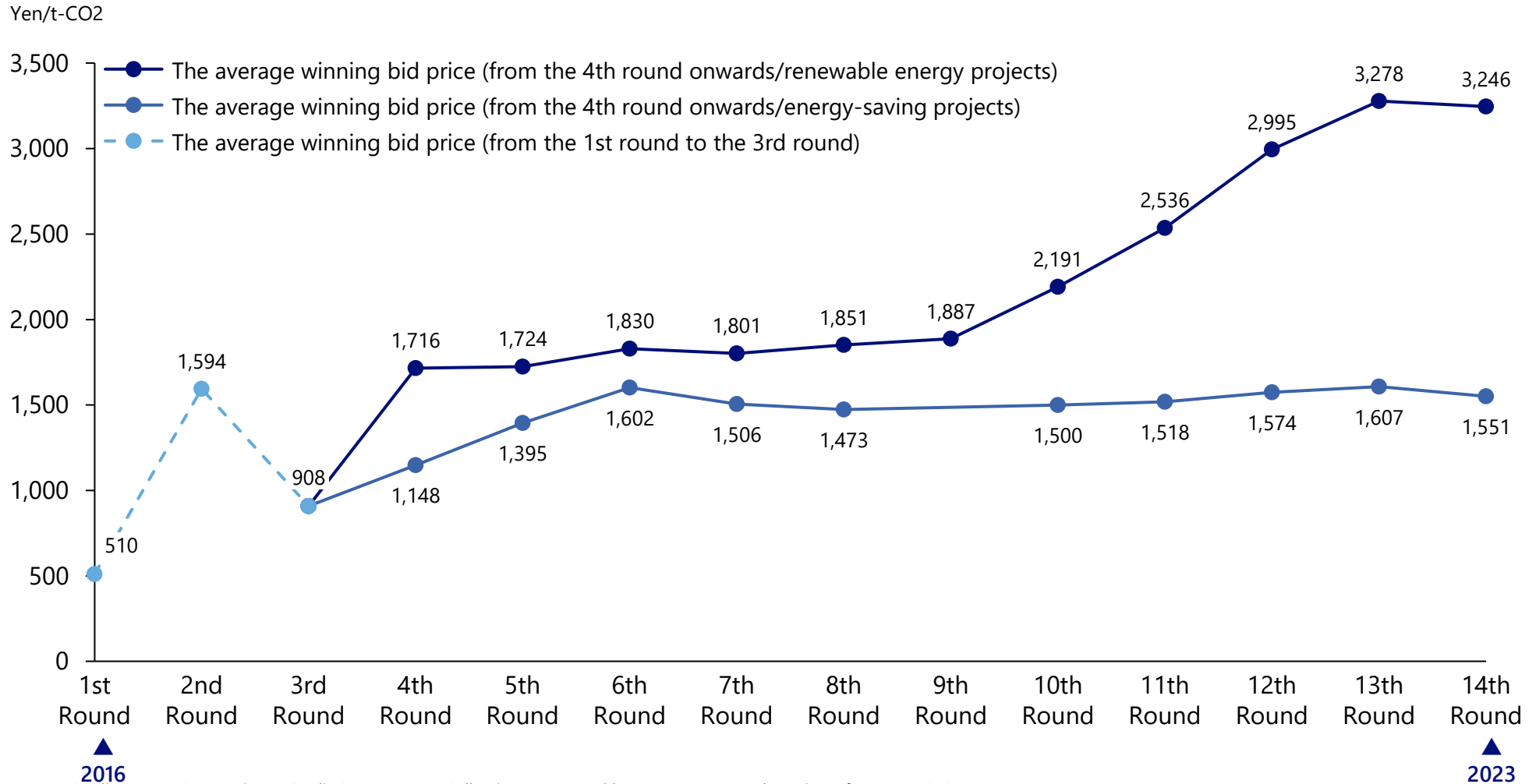
Note) Including the transition from the old system

* In fiscal 2023, the results were as of the 55 Certification Committee meeting (6/28).

3.Trends in Japan's Carbon Credit Trading Market

The trends in the government auction price for J-Credit has also been on an upward trend. The first bid in 2016 was 510 yen, while the 14th round of auctions in 2023 was 3~6 times higher.

Trends in the Government Bid Price of J-Credit



Source: J-Credit System Secretariat "J-Credit System (Data Collection)" prepared by Nomura Research Institute from June 2023

3.Trends in Japan's Carbon Credit Trading Market

On the other hand, the volume of J-Credits issued is still less than those in other compliance markets.

Comparison of J-Credit with Overseas Public Credit

	Australia Emission Reduction Fund	California Compliance offset Program	Republic of Korea Offset Credit Mechanism	J-Credit	
Country/Region	Australia	California	Korea	Japan	
Issuing Entity	Clean Energy Regulator	California Air Resources Board	Ministry of Trade, Industry and Energy	the Ministry of Economy, Trade and Industry, the Ministry of the Environment, the Ministry of Agriculture, Forestry and Fisheries	
Regional Emissions (2020)	Approx. 572 million t-CO2	Approx. 369 million t-CO2	Approx. 659 million t-CO2	Approx. 1,148 million t CO2	
Credit Issue	Annual	Approx. 17 million t-CO2 *From July 2021 June 2022	Approx. 17 million t-CO2 *2021	Approx. 8 million t-CO2 *2021	Approx. 800,000 t CO2 *FY 2022
	Total	Approx. 69 million t-CO2	Approx. 250 million t-CO2	Approx. 32 million t-CO2	Approx. 9 million t-CO2
Price (USD/t-CO2)	11.9~12.7	14.9	10.7~29.0	20.9 (3012.9 yen/t-CO2)	
Registered Methodology	Agriculture	○	○	○	○
	Energy conservation	○	×	○	○
	Renewable energy	○	×	○	○
	Forest	○	○	○	○
	Industry and manufacturing	○	○	○	○
	Transport	○	×	○	○
	Waste disposal	○	×	○	○
	Other land use	○	×	×	×
	CCUS	○	×	×	×
	Blue carbon	○	×	×	×

3.Trends in Japan's Carbon Credit Trading Market

J-Credits must be generated by registered methodologies. These include reduction-based(e.g. renewable energy and energy-saving), as well as absorption- or removal-based (e.g. agriculture and forestry). Expansion of these methodologies is being considered for the future.

J-Credit Methodology

Classification	Number of Methodologies	Example Methodologies	<u>Methodology of the removal and absorption system is shown in bold and underline.</u>
Energy Conservation	41 cases	Introduction and renewal of energy-saving equipment	<ul style="list-style-type: none"> Introduction of cogeneration systems Renewal of transformers Introduction of electric vehicles and PHEVs
		Operational optimization	<ul style="list-style-type: none"> Change to joint delivery Introduction of energy management system
		Other	<ul style="list-style-type: none"> Substitution of non-fossil fuels, etc. or grid power by hydrogen and ammonia fuels derived from non-renewable energy sources
Renewable energy sources	11 cases	<ul style="list-style-type: none"> Introduction of solar power generation facilities Introduction of wind power generation facilities 	<ul style="list-style-type: none"> Substitution of non-fossil fuels or grid power with hydrogen and ammonia fuels derived from renewable energy sources Introduction of hydrogen fuel cell vehicles (use of hydrogen derived from renewable energy sources)
Industrial processes	5 cases	<ul style="list-style-type: none"> Change of cover gas for magnesium melting casting Introduction of NO2O gas recovery and decomposition system for anesthesia 	<ul style="list-style-type: none"> Substitution of gas used from SF6 to COF2 in liquid crystal TFT array process Introduction of insulated switchgear without greenhouse gases
Agriculture	5 cases	<ul style="list-style-type: none"> Feeding diets for improving amino acid balance to cattle, pigs and broilers Changes in livestock excreta management practices 	<ul style="list-style-type: none"> <u>Agricultural land use of biochar</u> Extension of mid-drying period in paddy rice cultivation
Waste	3 cases	<ul style="list-style-type: none"> Reduction of fossil fuels used for incineration by reducing sludge volume using microbial activators Change in disposal of food waste from landfill to composting 	
Forestry	3 cases	<ul style="list-style-type: none"> <u>Forest management activities</u> <u>Afforestation activities</u> 	<ul style="list-style-type: none"> <u>Reforestation activities</u>

3.Trends in Japan's Carbon Credit Market

Efforts are being made to promote the revitalization of the J-Credit market through initiatives to expand supply and demand, as well as the establishment and revision of existing policies.

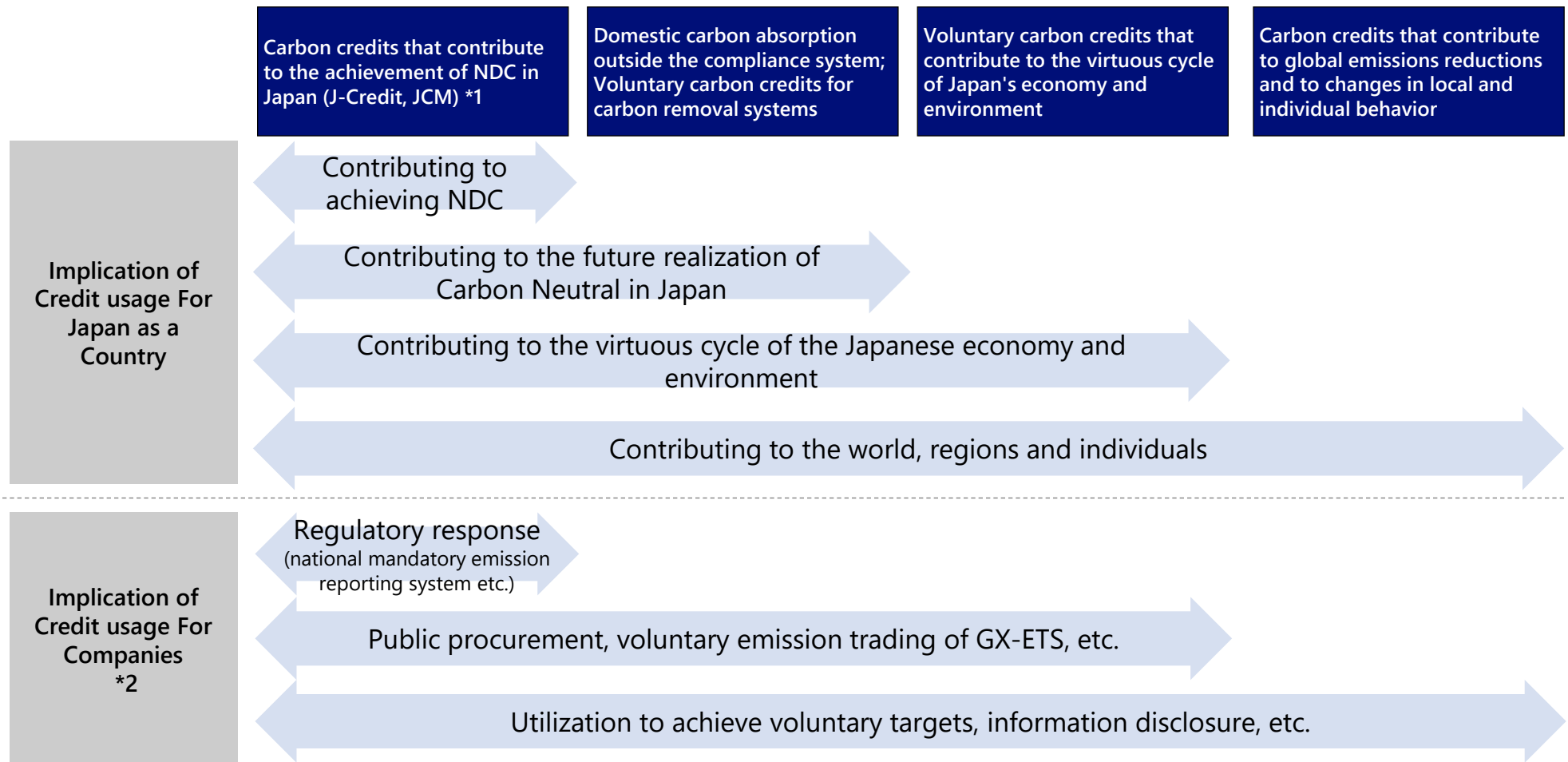
Study for Revitalizing the J-Credit Scheme

Types of Revitalization Measures	Subject	Details of the measures
Expansion of supply and demand	Forestry	<ul style="list-style-type: none"> Encouraging national forest improvement corporations to utilize the system Improving the system by simplifying the monitoring of credits derived from forests
	Realization of environmental value	<ul style="list-style-type: none"> Demonstration of credit creation opportunities arising from the introduction of energy-saving equipment (e.g., accumulation of projects through publicity)
	Subsidies	<ul style="list-style-type: none"> Implementation of initiatives to incorporate the environmental value of national and local government subsidy programs (for individuals and small and medium-sized enterprises) into J-credits
	Incorporation of new technologies to reduce CO2 emissions	<ul style="list-style-type: none"> J-Credit Steering Committee Discusses Formulation of New Technology Methodology and Review of Operation
	Increasing Demand by Using Offsets	<ul style="list-style-type: none"> Promote carbon offset initiatives using J-Credit to expand demand
Institutional environment development	Promotion of digitalization to ensure convenience	<ul style="list-style-type: none"> improvement of efficiency by digitizing various processes and application procedures related to credit creation and utilization
	Cooperation with local governments	<ul style="list-style-type: none"> In addition to leading demand for carbon value in the region, cooperation through local governments with suppliers through forest and subsidy projects is aimed at realizing a zero carbon city and a "community recycling symbiosis zone"

3.Trends in Japan's Carbon Credit Trading Market

In the "Carbon Credit Report" by the Ministry of Economy, Trade and Industry (METI), an overview of how Japanese companies can utilize carbon credits in areas beyond regulatory compliance, which is currently the main application, was organized.

Image of Japanese companies using carbon credit



*1. Considerably adjusted voluntary carbon credits under Article 6 (2) of the Paris Agreement and UN credits under Article 6 (4) of the Paris Agreement need to be discussed in the future.

*2. Only some examples of use cases

3.Trends in Japan's Carbon Credit Trading Market

Various organizations and initiatives in Japan is also considering and proposing directions to promote the use of carbon credits, and there is a possibility that demand will expand in Japan.

Key Discussion Points of Study in Each System to Support Credit Utilization

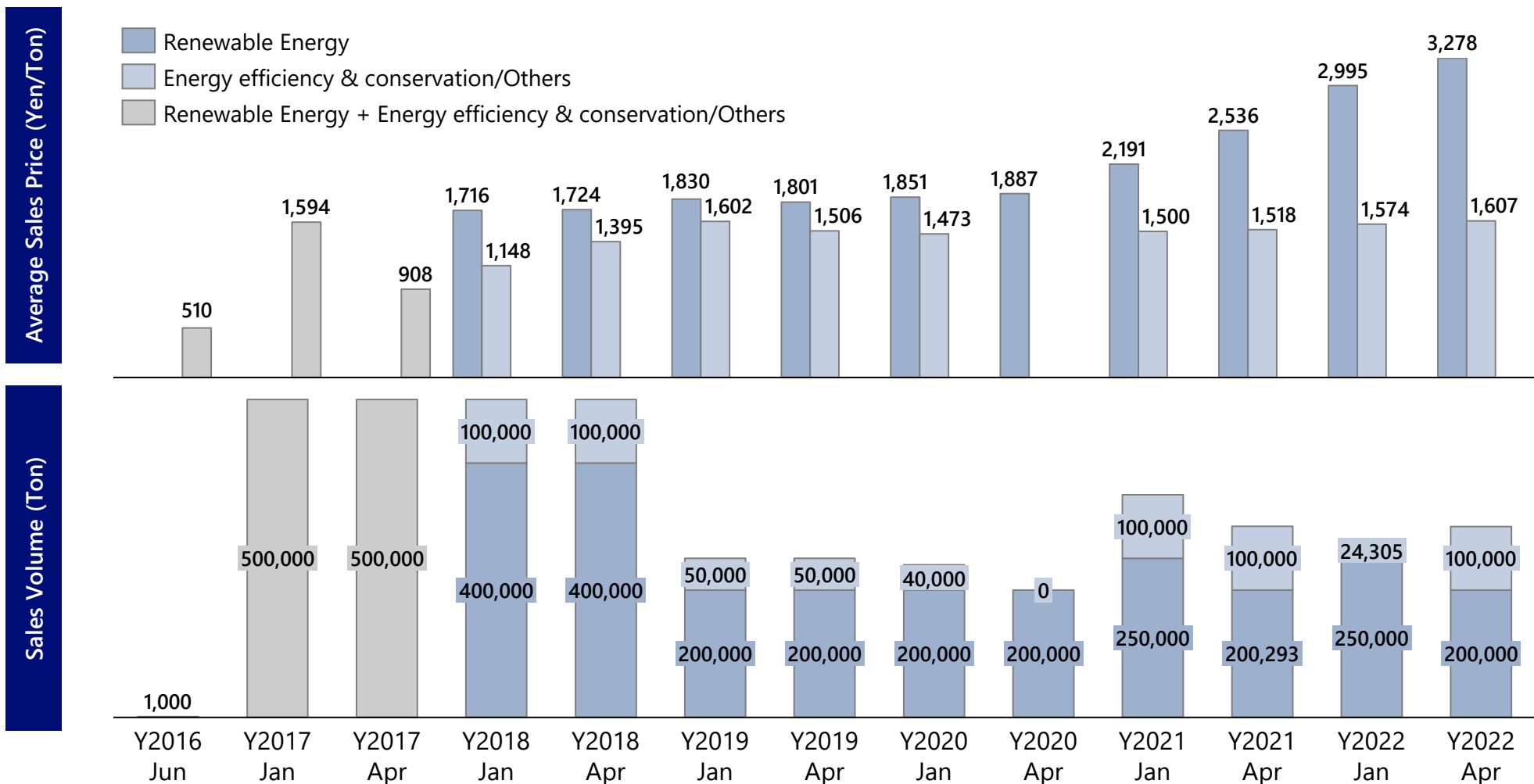
Organization/Initiative Name	Overview	Key Discussion Points
National mandatory emission reporting system	<ul style="list-style-type: none"> A system that requires companies that emit a certain amount of greenhouse gases or more to calculate their own emissions and report them to the national government, and the national government compiles and publishes the reported data. 	<ul style="list-style-type: none"> Consideration of encouraging voluntary reporting of voluntary credits in addition to J-credits, etc., which have already been approved for use.
Act on Promotion of Procurement of Environmental Goods by the State, etc. (Green Purchasing Law)	<ul style="list-style-type: none"> When the national government and incorporated administrative agencies, etc. procure environmental goods, etc., those that provide for specified procurement items and standards of judgment, etc. 	<ul style="list-style-type: none"> Consideration of handling of carbon offset products and services
Carbon Neutral Port (CNP)	<ul style="list-style-type: none"> the Ministry of Land, Infrastructure, Transport and Tourism's efforts to improve the environment for receiving hydrogen and ammonia and to upgrade port functions in consideration of carbon neutrality. 	<ul style="list-style-type: none"> The use of carbon credits, such as carbon offsets through the J-Credit System, JCM, and J-Blue Credit, as one of the measures for emission sources
GX-ETS	<ul style="list-style-type: none"> Japan's first nationwide voluntary emission trading system by participating companies in the GX League 	<ul style="list-style-type: none"> In addition to J-Credits and JCMs, which have already been approved for use, consideration will be given to domestic and international voluntary credits that contribute to the virtuous cycle of Japan's economy and environment
KEIDANREN (Japan Business Federation) Carbon Neutral Action Plan Government Follow-up	<ul style="list-style-type: none"> The government evaluates and verifies the progress of each industry in setting voluntary targets and taking measures for the carbon neutrality action plan established by the KEIDANREN . 	<ul style="list-style-type: none"> The government has decided to leave the handling of carbon credits to the judgment of the industry, and the evaluation and verification policy has been stated that the industry expects to make an appropriate judgment as to what kind of credit is appropriate to use in light of the purpose of the action.

Source: the Ministry of Economy, Trade and Industry "Carbon Credit Report" prepared by Nomura Research Institute.

3.Trends in Japan's Carbon Credit Trading Market

In addition to over-the-counter transactions, J-Credits have also been sold through government auctions.

Trends in Tender Sales Volume and Price of J-Credit



Source: 2023/4, J-Credit System Secretariat, "J-Credit System (Data Collection)" prepared by Nomura Research Institute.

3.Trends in Japan's Carbon Credit Trading Market

With a view to expanding Japan domestic trading needs in the future, there has been a growing trend toward establishing trading markets.

Development of Trading Markets and Related Services in Japan

Business Operators	Service (Business) Name	Overview
e-dash	e-dash Carbon Offset	<ul style="list-style-type: none"> In July 2022, Voluntary Carbon Credit (VCS, ACR, etc.) was launched as the first online carbon credit trading market in Japan. In addition to Voluntary Carbon Credit, J-Credit was launched at the end of May 2023.
Shibuya Blend Green Energy	Japan Carbon Credit Exchange	<ul style="list-style-type: none"> In June 2023, the advance registration of the carbon credit exchange, where trading is completed on the website, was started. The beta version will be released in the latter half of 2023, and the grand opening will be held in 2024.
Asuene Inc. and SBI Holdings	Carbon EX	<ul style="list-style-type: none"> In June 2023, Asuene and SBI Holdings jointly established a new company, Carbon EX Co., Ltd., which aims to open a carbon credit and emission exchange. The company aims to establish a carbon credit and emission exchange that handles a wide range of carbon credit and ESG products, including voluntary carbon credits, J-Credits, and non-fossil certificates.
Enechain	eSquare for GX	<ul style="list-style-type: none"> In July 2023, the company announced that it had begun handling environmental values on its electricity exchanges. It handles credits, non-fossil certificates and green power certificates.
Sustech	CARBONIX Exchange	<ul style="list-style-type: none"> In July 2023, it announced that it had begun development of a platform to transparently trade carbon credits and other environmental values. It plans to build marketplace-based and exchange-traded systems.
Tokyo Stock Exchange	Carbon Credit Market	<ul style="list-style-type: none"> Market transactions for J-Credit between September 2022 and January 2023 Demonstrated (and simulated trading of excess reduction quota for GX League). Announced the opening of the carbon credit market in June 2023. Started trading in October 2023.

3.Trends in Japan's Carbon Credit Trading Market

The Tokyo Stock Exchange officially opened the carbon credit market on October 11, 2023. It is expected to stimulate trading and make prices more visible in Japan.

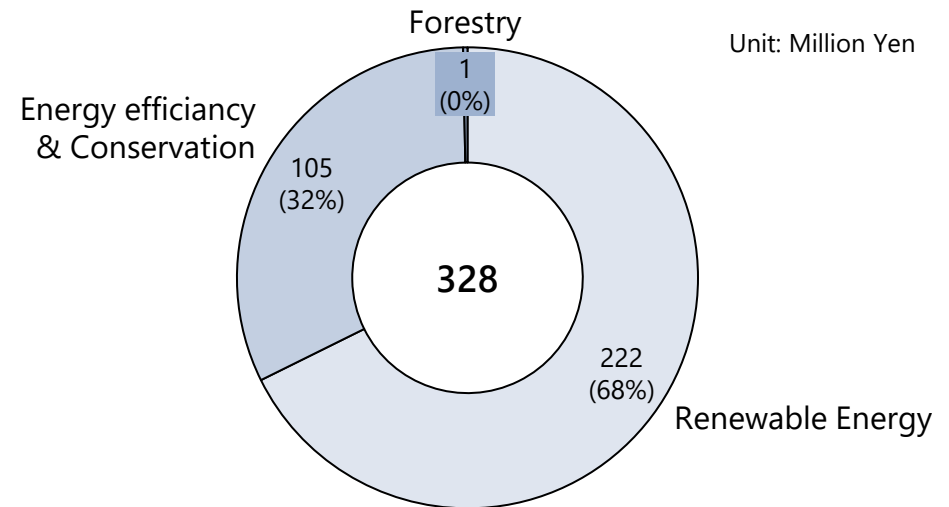
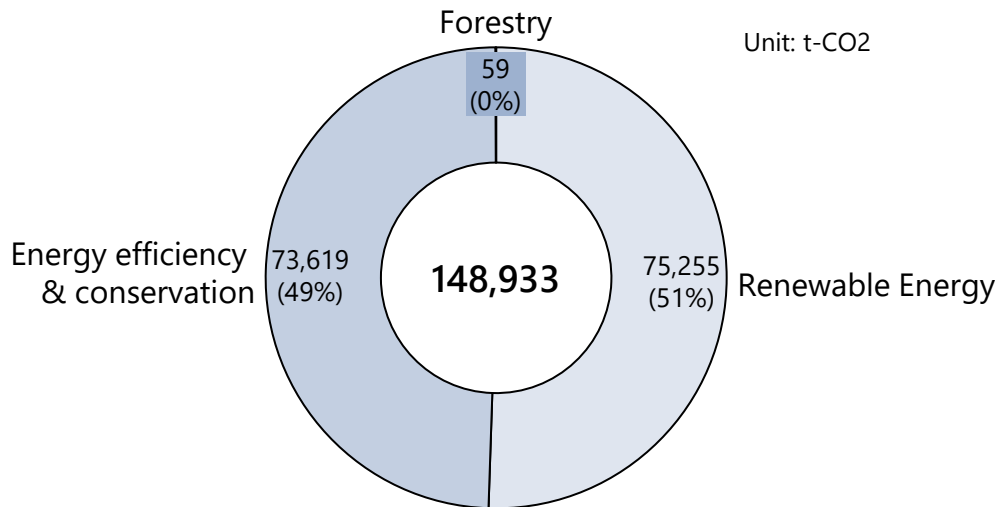
Overview of the Carbon Credit Market by the Tokyo Stock Exchange

eligible credit	J-Credit (Including domestic credit systems, J-VER systems, and other transitional systems)
Start Time	October 11, 2023
Method of Commitment	1: 11:30 AM, 1: 15:00 PM, Price Priority
Trading Category	Six Major Project Types (J-Credit)
Order Type	Limit Order Only
transaction unit	1t-CO2
call value unit	1 yen
Base price	(1) Contract price at the previous session (2) Same base price as the previous session
Limit range	Base price multiplied by 90%
Trading Participant	Carbon Credit Market Participant
settlement date	Six business days (T+5) from the date of conclusion of the agreement
Settlement method	Payment and receipt of payment (purchase method) and credit (sale method)
Price announcement	Daily publication of contract prices and volumes on JPX's carbon credit market website

3.Trends in Japan's Carbon Credit Trading Market

During the demonstration period before the opening of the carbon credit market, just under 150,000 tons of J-credits were traded, with the majority coming from energy conservation and renewable energy sources.

J-Credit Trading Results during the Demonstration Period





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- Engaged in the formulation of business strategies for private companies in addition to supporting the formulation and implementation of policy systems, focusing on government agency projects. In recent years, he has engaged in operations related to emissions trading systems and third-party verification.



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- Engaged in consulting and implementation support for business strategy formulation, new business development, and overseas business strategy creation in the areas of decarbonization, GX, and energy (renewable energy, hydrogen). In recent years, he has been involved in supporting business studies related to emissions trading schemes and environmental value trading.



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**Envision the value,
Empower the change**