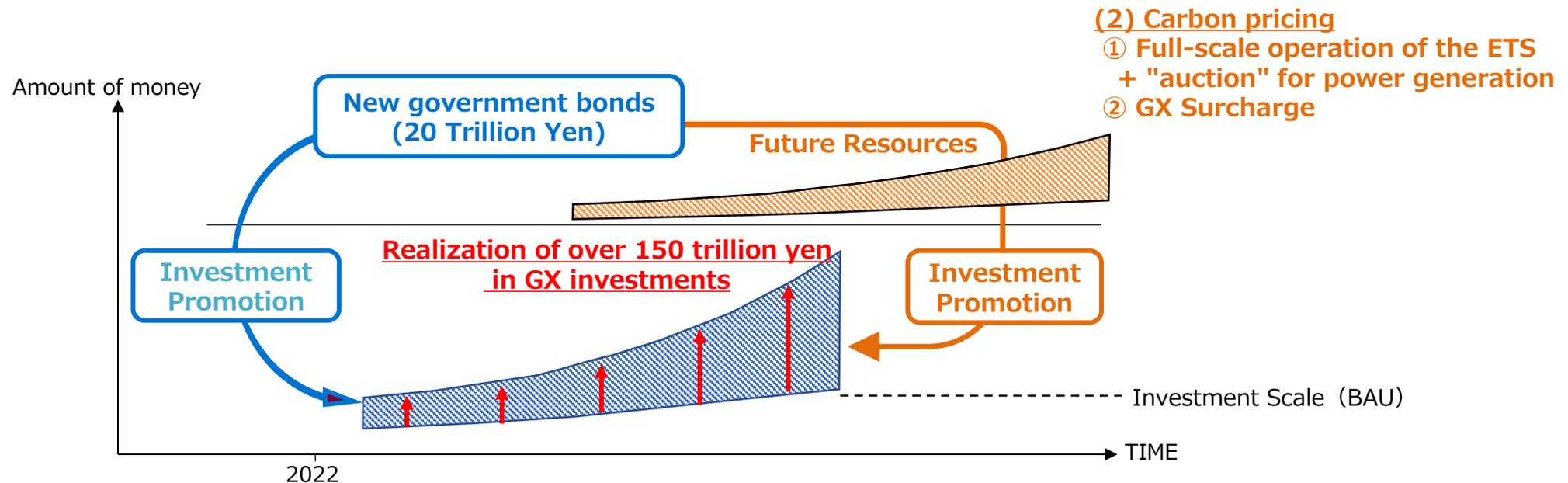


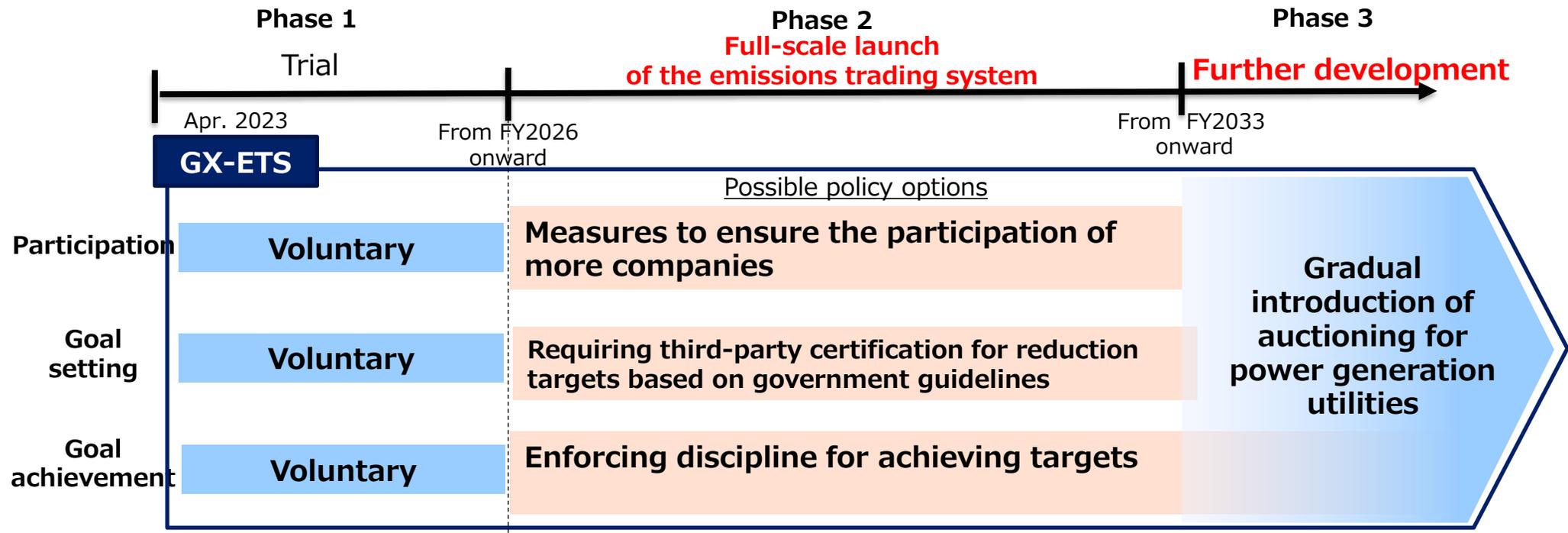
# Pro-Growth Carbon Pricing

- Through the combination of carbon pricing and investment support measures, we have achieved more than 150 trillion yen in public-private GX investment over 10 years.
  - ① Upfront investment support using **GX Economic Transition Bonds (20 trillion yen over 10 years)**
  - (2) Advance incentives for GX investment through carbon pricing**
    - [GX Surcharge(Fossil fuel levy)]
      - Introduced from FY28
    - [Emissions trading system]
      - Started on a trial basis in the GX League from FY23, and started full-scale operation in FY26
      - From FY33, paid auctions will be introduced to power generation companies
  - (3) Utilization of new financial methods**
    - Promotion of transition finance, financial support such as debt guarantees by the GX Organization, etc.



# Gradual development of GX-ETS

- The **emissions trading system** has been experimentally launched in FY 2023 and steered by the **GX League**, a voluntary scheme based on members' leadership.
- As of FY 2024, **over 700 companies** are participating that account for **about 60% of Japan's emissions**.
- The ETS is to be launched at **full scale from FY2026** upon introducing measures to improve fairness and effectivity of participation, goal setting and achievement.



# The Basic Concept of the Emissions Trading System in Japan

## ① Scope of the system

- Corporations with direct **CO2 emissions of over 100,000 tons\*** \*3-year-average from FY2023 to FY2025

## ② Transition plan

- **Submit** transition plans aimed at achieving CN by 2050

→ For example, companies will compile and publish medium- to long-term projections of direct and indirect emission reduction targets for FY2030.

## ③ Surrender obligation for emission allowance

- Apply for receiving emission allowances.
- Report their emissions data verified by a third-party organization.
- Surrender sufficient allowances to fully account for their annual emissions.
- Non-compliance will result in a penalty\*.  
\* The penalty amount is equal to 1.1 times the upper limit price.

## ④ Price Stabilization ~Setting the Price Corridor~

- Set the Price Corridor : The government will **set upper and lower limit** prices for emission allowances.

**Upper limit** ↑ Companies are exempt from holding emission allowances if they pay the government an amount equivalent to the upper limit.

**lower limit** ↓ GX Acceleration Agency purchases emission allowances through a reverse auction.

## ⑤ Emission trading market

- GX Acceleration Agency establishes the emission trading market.
- Financial institutions and trading firms can also participate if they meet certain conditions such as extensive experience in trading carbon credits.

# Approaches to Allocation Outlined in Government Guidelines

- Government guidelines under the GX Promotion Act outline how to calculate allocation amounts for each industry sector.
- Allocations should account for past reduction efforts, leakage risk, and the scale of investments in R&D that have yet to deliver tangible reduction results, while using benchmarking and grandfathering as baseline methods.

## Sector-based Standards

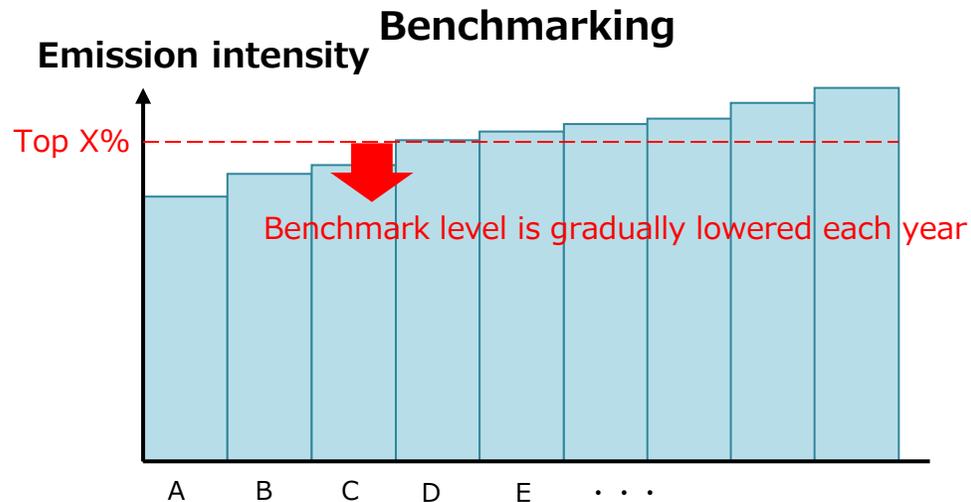
Emission-intensive sectors	Benchmarking (baseline activity level × Benchmark value )
Other sectors	Grandfathering (baseline Emissions× (1 - Annual reduction rate) +

## Other Key Considerations

(1) Early reduction	For facilities under grandfathering, if emission reductions achieved before start of the ETS exceeds the standard reduction rate, the amount of excess reduction is added to baseline emissions.
(2) Leakage risk	If the main business is classified as a carbon leakage sector and the cost of procuring allowances (emission shortfall × average market price) exceeds a certain share of revenue, a set percentage of the shortfall is added to the allocation.
(3) Status of R&D investment	Additional allowances will be granted within the range of the allowance shortfall based on the amount of GX-related R&D investment in the previous fiscal year,
(4) Changes in activity levels, etc.	Allocations will be adjusted in the event of new establishment or closures of facilities, or significant changes in production (activity levels).

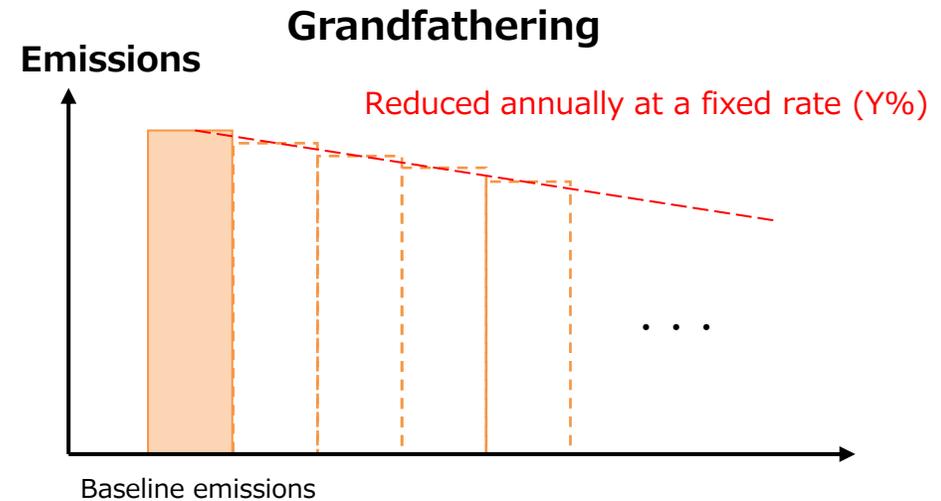
# Benchmarking and Grandfathering

- To account for industry-specific characteristics, benchmarks are **set primarily for energy-intensive sectors**. Allocation amounts for entities are then calculated based on these benchmarks.
- For each industry, the benchmark level is determined by comparing companies' emissions intensity per unit of output. The benchmark is set at the performance level of the top X% (see next page) within the industry, **thereby accounting for the industry-specific situations in the adoption of alternative technologies, etc**
- **For industries where setting benchmarks is difficult**, allocation will be based on **the grandfathering method, which applies a certain reduction rate to the emissions of a baseline year**.



- The benchmark value is set at the the emission intensity of the top X% level (\*) within the same industry.
- The allocation is calculated by multiplying the benchmark with the benchmark of the baseline activity level (average production, etc. over the three years before the introduction of the ETS, i.e. FY2023 ~ FY2025).

$$\text{Allocation} = \text{Baseline activity level} \times \text{Target emission intensity of each year}$$



- Emission allowance decreases at a certain rate each fiscal year, based on past emission levels.
- The allocation is calculated by multiplying the baseline emissions (average emissions over the three years before the introduction of the ETS i.e. FY2023~FY2025), with a certain reduction rate.

$$\text{Allocation} = \text{Baseline emissions} \times (1 - \text{Target reduction rate} \times \text{years since the baseline})$$

# Benchmark Industries

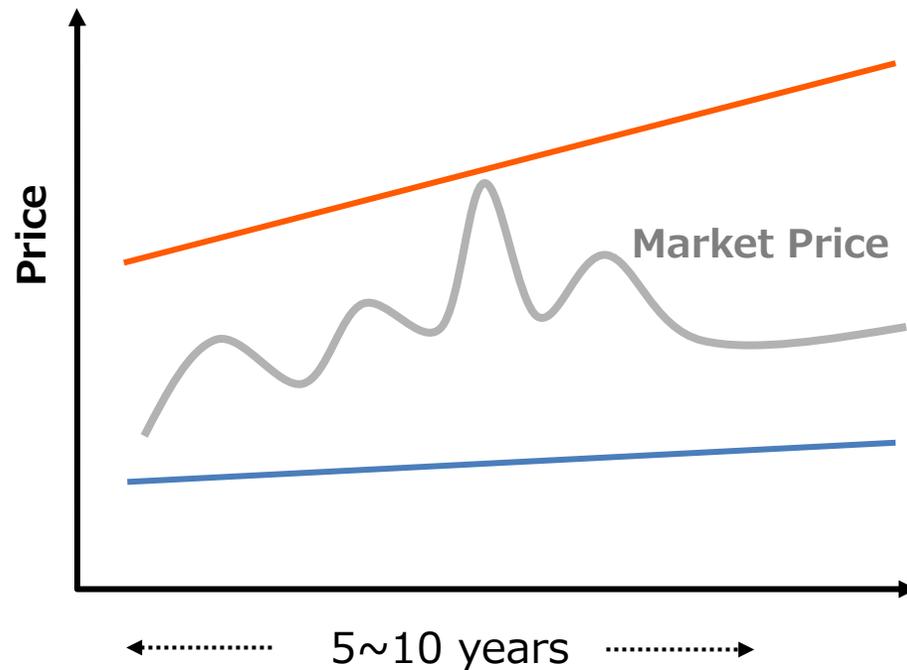
- We set a common benchmark (20 industries) for each energy-intensive industry such as iron, chemicals, and electricity, and compare the emission intensity per product output within the industry.
- Covers 90% of emissions from businesses covered by the system

Benchmark Industries	
Paper	Lime
Paperboard	Blast furnace
Soda	Electric furnace ordinary steel
Carbon black	Electric furnace special steel
Organic chemicals	Aluminum
Petroleum refining	Automotive
Rubber products	Power generation (gas, coal, oil, etc.)
Flat glass	Truck transport
Glass bottles	Domestic shipping
Cement	Air freight

# Image of Price Stabilizing Measures

- At the ETS in full operation, **upper/lower limit prices for a period of 5-10 years will be set** and disclosed in advance to increase predictability in the market price and incentivize investment for decarbonization.
- The levels for the upper/lower limit will be determined referring to input from experts and industry.

## Image of Upper/Lower Limit



### Upper Limit

- When allowances prices surge, entities can meet their obligations by paying the predetermined upper limit.

### Lower Limit

- When a certain amount of days pass where trading prices do not reach the lower limit, a reverse auction will be held to balance the supply/demand of allowances.
- If prices still are low after the reverse auction, future allowance bases may be strengthened.

# Specific levels of upper and lower limit prices

- The upper limit price for FY2026 will be 4,300 yen/ton based on the level of fuel conversion costs.
- The lower limit price is 1,700 yen/ton, referring to the price of energy-saving J-credit before the price surge to be consistent with the current cost of energy-saving measures.
- The upper and lower prices from FY2027 onwards will be determined by multiplying the price of the previous year by the price increase rate (3% + inflation rate).

## Forecast of upper and lower limit prices for each fiscal year

