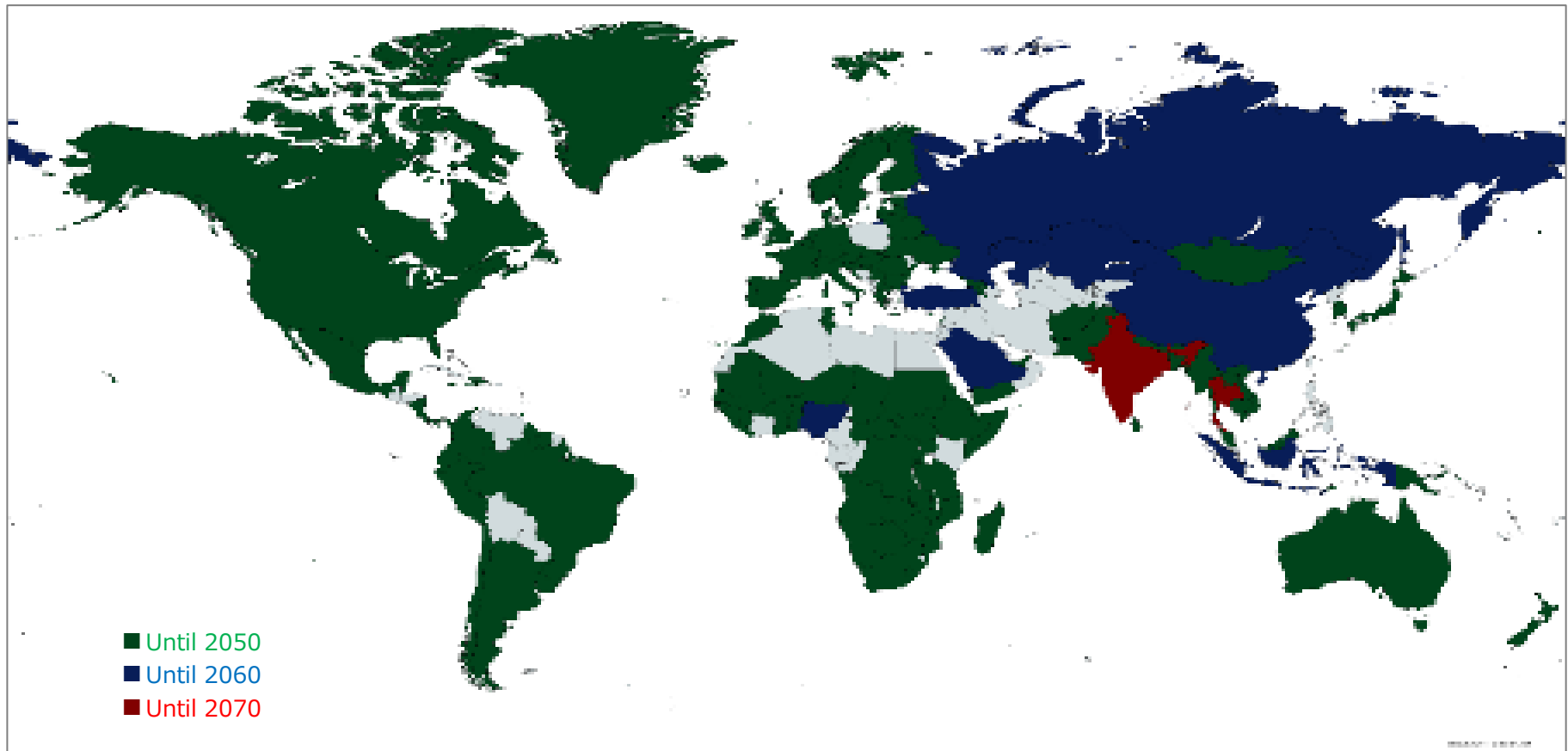


Pro-Growth Carbon Pricing Concept

Global Trends for GX

- Countries and regions that have declared to be carbon neutral with a time limit have expanded rapidly to reach **94% of the world on a GDP basis**.

Countries/regions that have declared to achieve carbon neutrality (2021)



**COP25
(2019)**

121 countries/regions, accounting for about 26% of global GDP



**COP26
(2021)**

154 countries/regions, accounting for about 94% of global GDP

Increasing Worldwide Government Policies toward GX

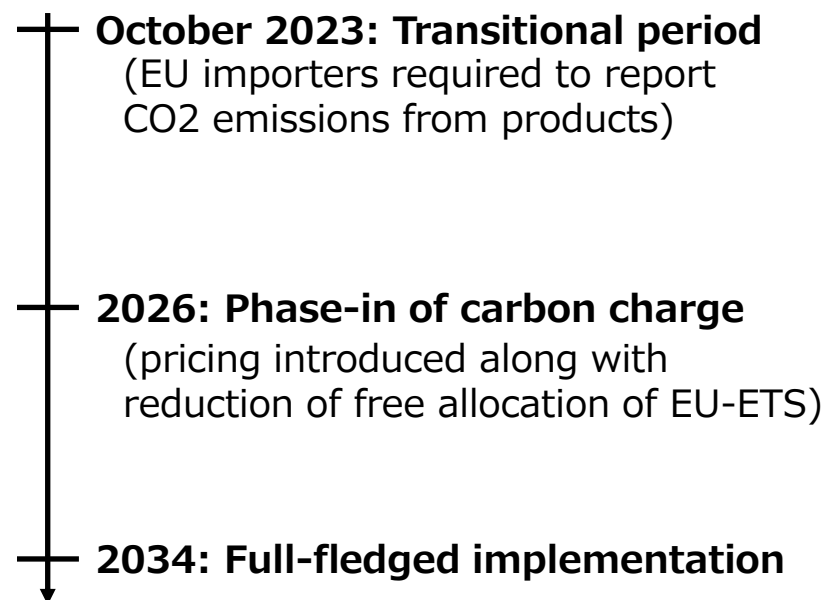
- Economies are implementing large-scale measures to promote investment.
 - The **EU** has set a goal of achieving €1 trillion of investment in 10 years.
 - The **US IRA** provides \$369 billion of support over the next 10 years.
- Regulatory measures such as EU-CBAM are being introduced as well.

Worldwide GX Investment Promotion

Area	Goals/Measures	Reduction Target	GDP
EU 2020.1.14	1 Trillion Euros of public and private investment in 10 years	▲55% in 2030 (base year: 1990)	\$17.9 Trillion
US 2022.8.16	369 Billion Dollars of government support in 10 year (Inflation Reduction Act)	▲50-52% in 2030 (base year: 2005)	\$23.0 Trillion
Germany 2020.6.3	50 Billion Euros of government support mainly in 2 years	▲55% in 2030 (base year: 1990) ※EU-wide goal	\$4.2 Trillion
France 2020.9.3	30 Billion Euros of government support in 2 years	▲55% in 2030 (base year: 1990) ※EU-wide goal	\$2.9 Trillion
UK 2021.10.19	26 Billion Pounds of government support in 8 years	▲68% in 2030 (base year: 1990)	\$3.2 Trillion

EU's Carbon Border Adjustment Measures

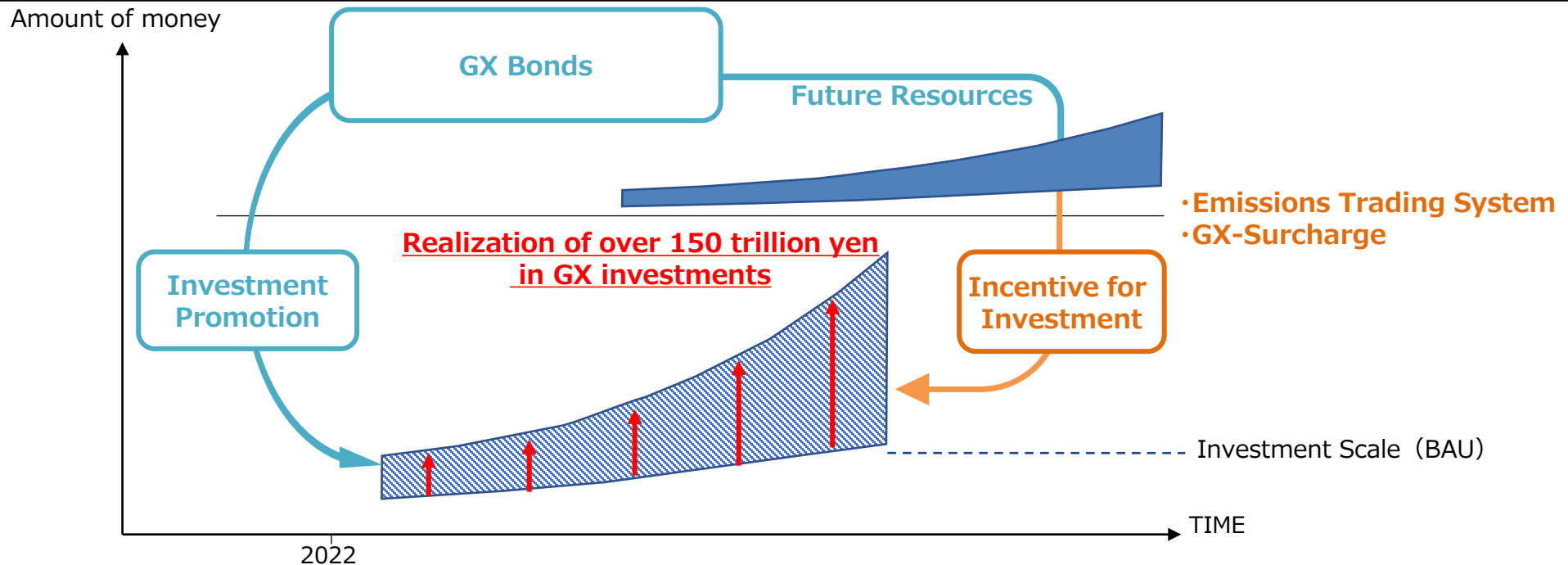
Target goods: Cement, Iron and Steel, Aluminum, Fertilizers, Electricity, Hydrogen



(Ref) Disclosures by each government, exchange rate as of October 2022

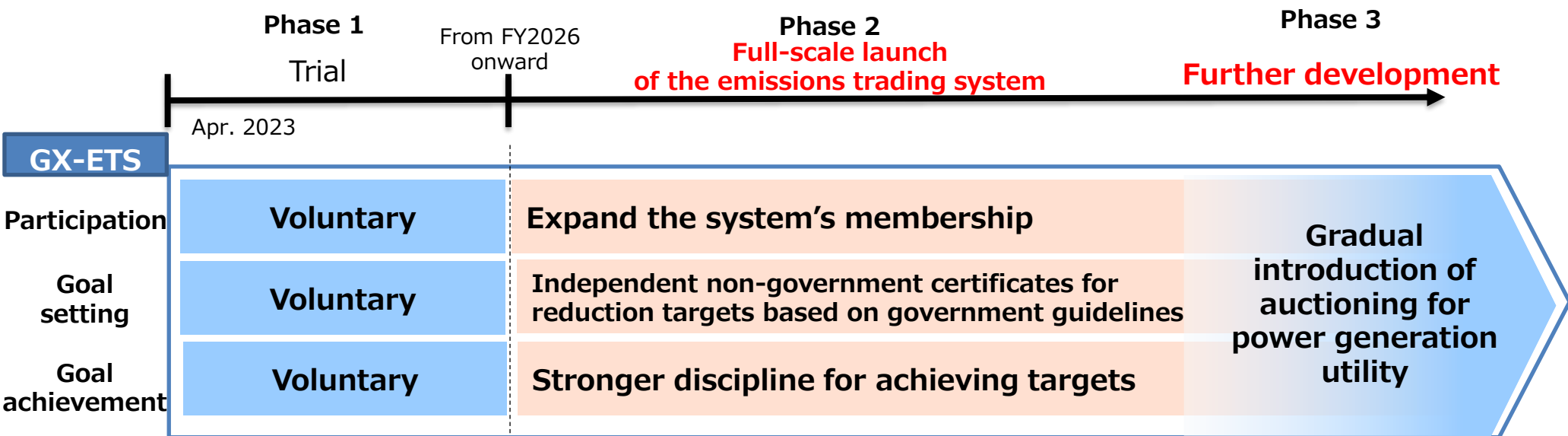
Japan's Pro-Growth Carbon Pricing Concept

- Based on the **GX Promotion Act** enacted in May 2023, Japan will implement the **Pro-Growth Carbon Pricing Concept** consisting of the following factors:
 1. **Investment support** (20 trillion yen in 10 years) through **GX Economy Transition Bonds**
 2. Introduction of **carbon pricing** to incentivize GX investment
 - (1) Emissions trading system in high emission industries [from FY2026].
+ Auctioning by power generation companies [from FY2033]
 - (2) Introduction of GX-Surcharge on fossil fuel supply [from FY2028]
 3. Strengthen financial support through public-private partnership



Gradual Development of GX-ETS within the GX League

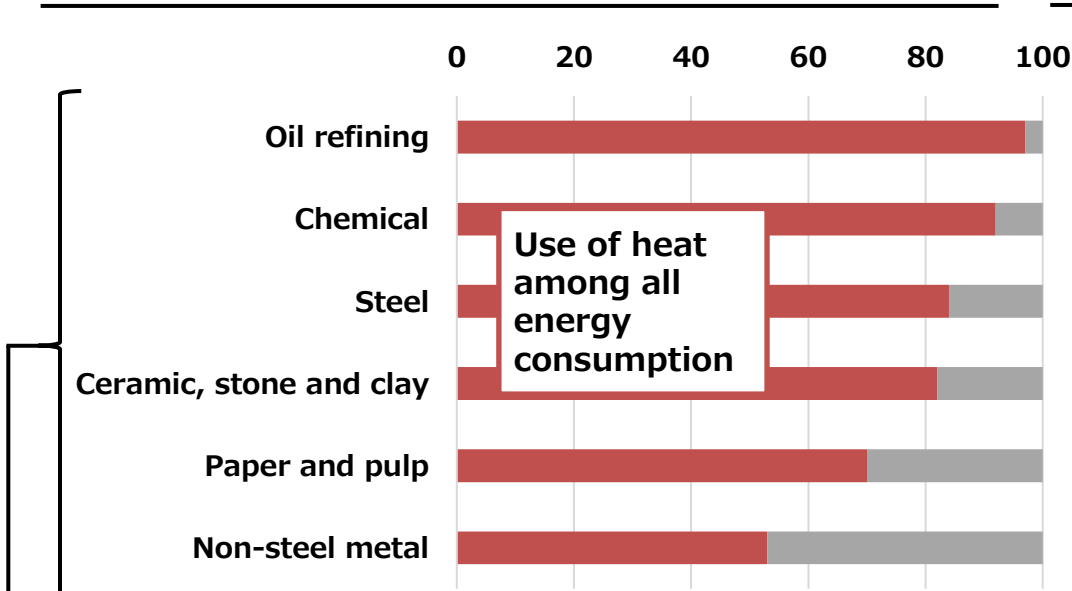
- The **emissions trading system** has been experimentally launched in FY 2023 and steered by the **GX League**, a voluntary scheme based on members' leadership.
- As of April 2024, **747 companies** are participating that account for **over 50% of Japan's emissions**.
 - ※Coverage of EU-ETS: about 40%
- 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.
 - ※To be considered along with amendment of GX Promotion Act.



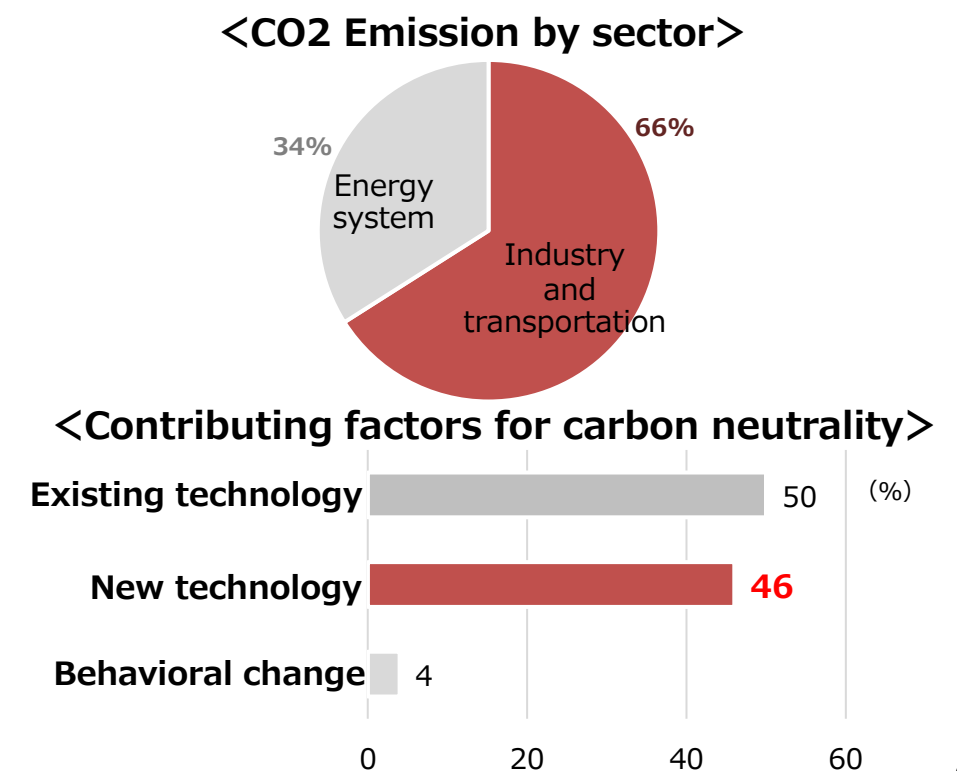
(Ref.) The Importance of Transition in Achieving Decarbonization

- Decarbonization of energy sources other than electricity is important for the manufacturing industry, which has a high ratio of heat use.
- Transition finance is necessary for the development of new technology required to decarbonize these areas, which is a time-consuming and costly process.

Heat use % among energy consumption (Japan)



Necessity of new technology for decarbonization



(Ref) Agency for Natural Resources and Energy, IPCC, IEA

Implementation of GX investment promotion policies

- Over the next 10 years the government will provide **¥20T (\$140B)** and will realize **¥150T (\$1T) of public-private investment, combined with carbon pricing.**
- Investment promotion measures are being implemented as below by utilizing funds from the **GX Economy Transition Bond** and in accordance with the **“Sector Specific Investment Strategy”** compiled last year.

* **World’s first sovereign transition bond** (¥1.6T issued in Feb. 2024)

Innovative Technology

¥2.8T

- Green Innovation Fund: **Perovskite solar cells, Hydrogen reduction blast furnace, Ammonia only-fired gas turbine**, etc.

Hard-to-Abate

¥1.3T

- Innovative Electric Furnace (reduces emissions by 50+%), Chemical Recycling, Biomass Refinery, CCUS, etc.

Lifestyle-Related GX

¥2T

- Reform to **insulated windows, energy-efficient heat pumps, clean vehicles and batteries**, etc.

Hydrogen and Energy

¥4T

- Support towards **hydrogen** with focus on cost difference, supply chain building of **floating wind turbines** (in addition to FIT)

SMEs, Startups

¥1T

- Energy saving of **SMEs**
- Support for **GX startups**

Other Areas

¥1.1T

- Power semiconductors (¥430B), Batteries (¥500B), Circular economy (¥30B), Debt guarantee by GX Promotion Organization (¥120B)

Japan Climate Transition Bonds

- The Japan Climate Transition Bond is the first transition bond in the world to be issued by a national government.
- The first round of GX Bond was issued in February 2024 (1.6 Trillion Yen), upon acquiring second party opinions from JCR and DNV, and certification by CBI.



Japan Climate Transition Bond Framework

- Published date: Nov 2023
- Inter-government committee (Cabinet Secretariat, FSA, MOF, METI, MOE)
- Second party opinion: JCR, DNV



First Issuance
Feb 2024
(1.6 trillion yen)

Result of bidding for Japan Climate Transition Bond (February 2024)

	10 year bond	5 year bond
Date of bidding	2024/2/14	2024/2/27
Annual coupon rate	0.7%	0.3%
Bid amount (bid-to-cover ratio)	2321.2 Billion Yen (x2.9)	2714.5 Billion Yen (x3.4)
Amount of bids accepted	799.5 Billion Yen	799.8 Billion Yen
Yield to maturity	0.740%	0.339%

Contributing to the Realization of Asia's "Transition"

- In order to address global climate change issues and achieve economic growth, it is extremely important to realize GX in Asia. Social stability, including energy security, is also important. On the other hand, Asia faces **challenges such as limited renewable energy reserves and a surge in electricity demand** in the future.
- Therefore, **it is important to utilize "transition finance" to support the gradual transition to CN as well as green finances.**
- Specifically, it is important to (1) **disseminate transition-related technologies**, (2) support the formulation of rules related to transition finance, and (3) provide transition funds.

The Importance of Transition in Asia

potential

Asia's emissions are higher than the rest of the world's occupies more than half

By 2050
The size of the **economy is about 3 times***

subject

Compared to Europe and Africa, **the amount of renewable energy available is small**

Population growth and economic growth will **increase electricity demand by approximately tripling by 2050***

Taxonomy

(Limited to those that are already green, etc.)

Facts in Asian countries
Based on the Transition Path

Examples of Initiatives to Promote the Use of "Transition Finance"

Technology is widespread

- Expanding the results of GX investment in Japan to Asia
 - Compiled a list of technologies to make it easier for financial institutions to provide funding
 - Joint demonstration of transition technology

Rule formation

- Establishment of rules for the Asian version of transition finance
 - Bringing in global funds for GX (It is estimated that the cumulative total will be 40 trillion \$ by 2050.)

Fund Provisioning

- Expand the provision of funds by the Japanese government and private financial institutions for transition technologies and projects such as ammonia, LNG, and CCUS.

⇒ **Achieving economic growth and decarbonization together with Asia**

Source: Created based on IEA's World Energy Outlook 2021, etc.

*Outlook for Southeast Asia