

16th IEA-IETA-EPRI Annual Workshop on Greenhouse Gas Emission Trading
Session 2: Carbon Markets in Asia-Pacific: Updates and Next Steps Post-Paris
The OECD Conference Centre
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Carbon Market and CO2 emission reduction

- East Asia and Japan -

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Japan's Emission Reduction and Economy

◆ Domestic reduction

- 26% reduction from 2013
- Low emission power supply
 - Carbon emission factor : 370Kg/Kwh (whole power supply)
 - Zero emission power supply (RE + nuclear) : 44%
- Energy efficiency : 17% reduction of electricity demand

◆ International Contribution

- JCM
 - 50-100 million ton acquisition by government
 - Financial support; feasibility study and pilot projects
 - Improve investment climate for private sector
- 1billion ton reduction thorough business
- Climate finance
 - USD 15 billion for GCF

◆ Abenomics – Restoration and long term growth strategy of Japanese economy

- Increase liquidity and low/negative interest rate but has not floated yet.
- ⇒ Can low carbon investment as irreversible trend be a driver?

Overviews of debate about emission trading in Japan

◆ “Against”

- High volatility and uncertainty
- Not effective for emission reduction
- Negative impacts on international competitiveness and technology innovation

◆ “For”

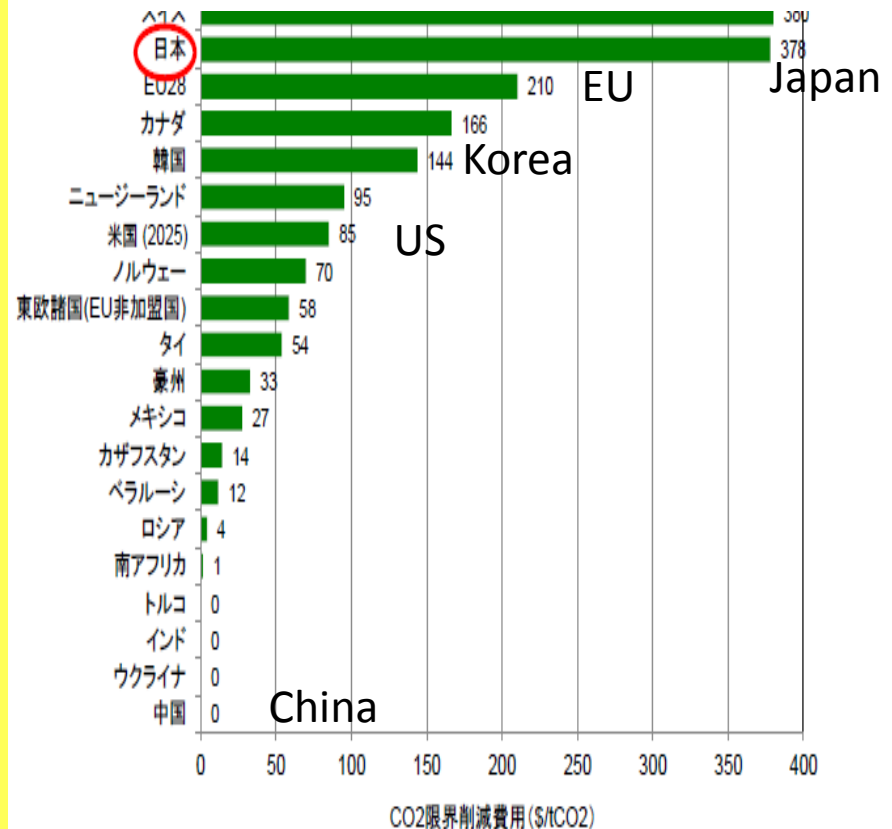
- Encourage low carbon investment
- Carbon pricing as irreversible global movement

◆ My views

- Private sector prefers to have more option for solving issues. Offset mechanism provides flexibility.
- Cost minimization /profit maximization is basic behavior of corporate and should be consolidated base and globally. Cross border trading is useful option.
- We will see long term carbon price for investment. Long term carbon signal is needed.

A study about marginal abatement cost

This said marginal abatement cost for achieving INDC of Japan is higher than that of EU, US and others



* 上下限で幅がある国は平均値を表示

By RITE

Source: K. Akimoto et al., Evol. Inst. Econ. Rev., 2016

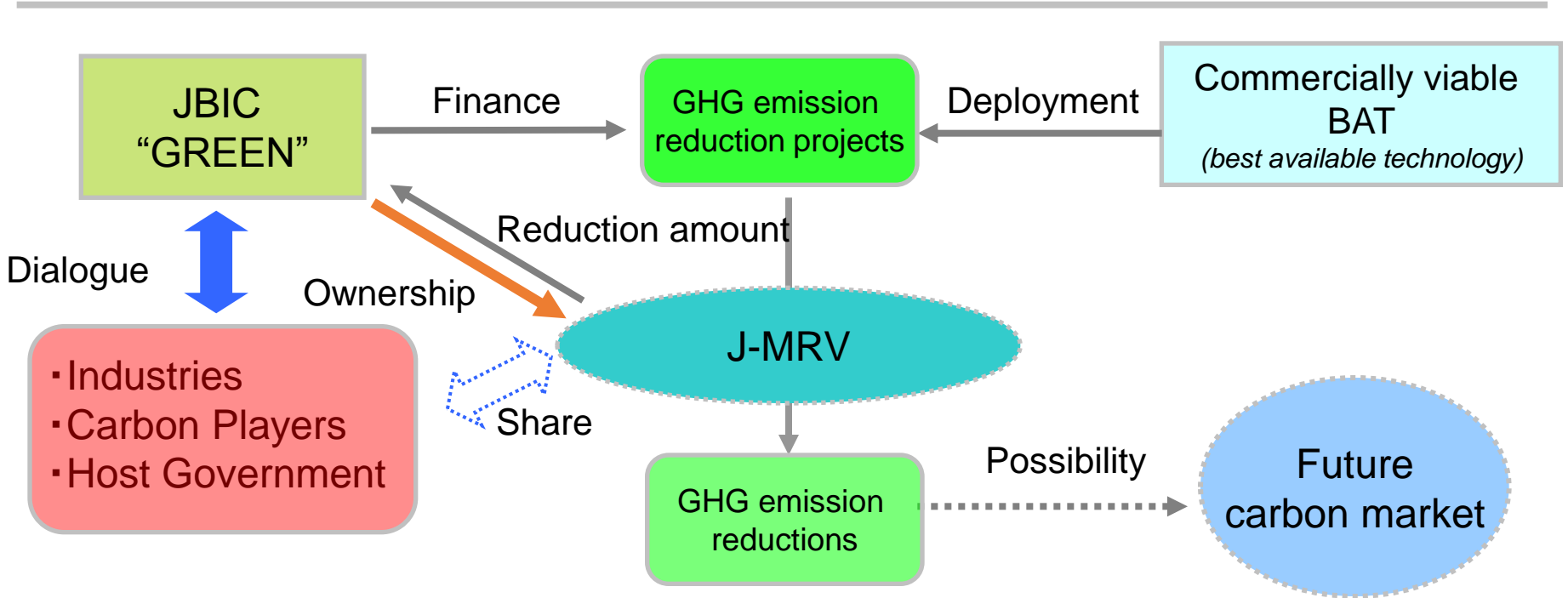
New Financial Program (GREEN) and J-MRV

(Global action for reconciling economic growth and environmental conservation)

JBIC will review the followings

1. Climate change policy of the host country
2. Technology to be used
3. Reduction amount by J-MRV

J-MRV
 JBIC are going to establish a guideline for quantifying GHG emission reduction amounts.
 It should be “simple, practical and internationally acceptable.”



(MRV: Measurement, reporting and verification)

Innovation of MRV for supporting reduction

Departure from BAU/conservative approach

= a key is Benchmarking/energy efficiency standard

J-MRV seeks for

- ✓ Simple and practical
- ✓ Business custom friendly
- ✓ International de fact standard and enhancing efficacy standard at host country

We should reevaluate of the sector wise approach!

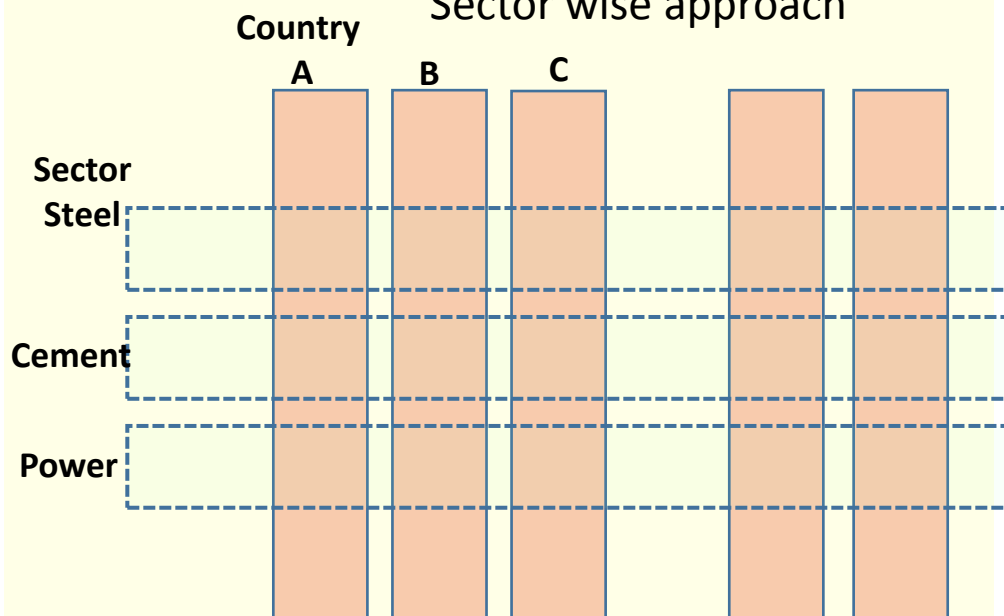
Sector wise benchmarking

Measurement

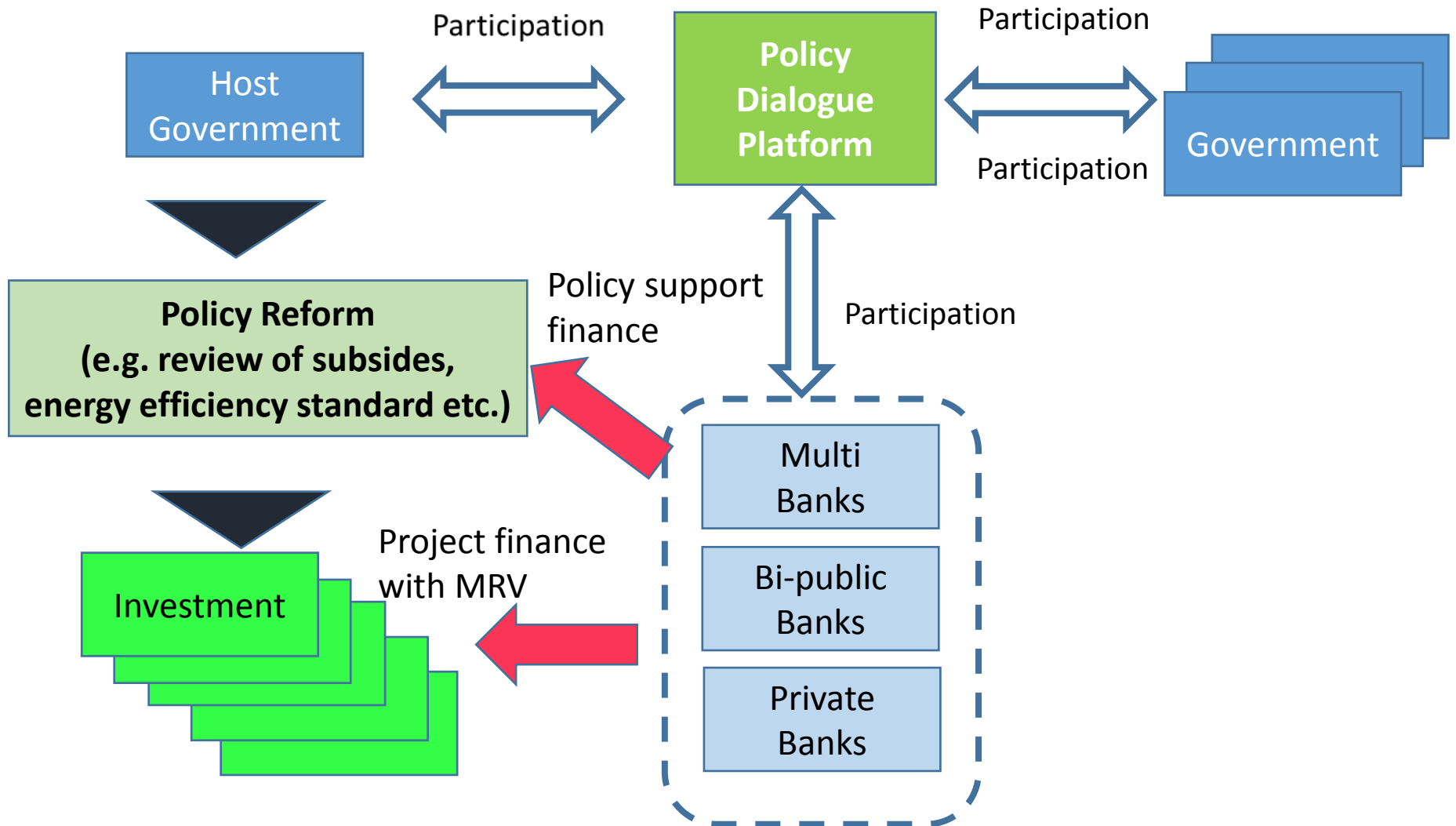
Data gathering

Benchmarking

Combination of National and
Sector wise approach



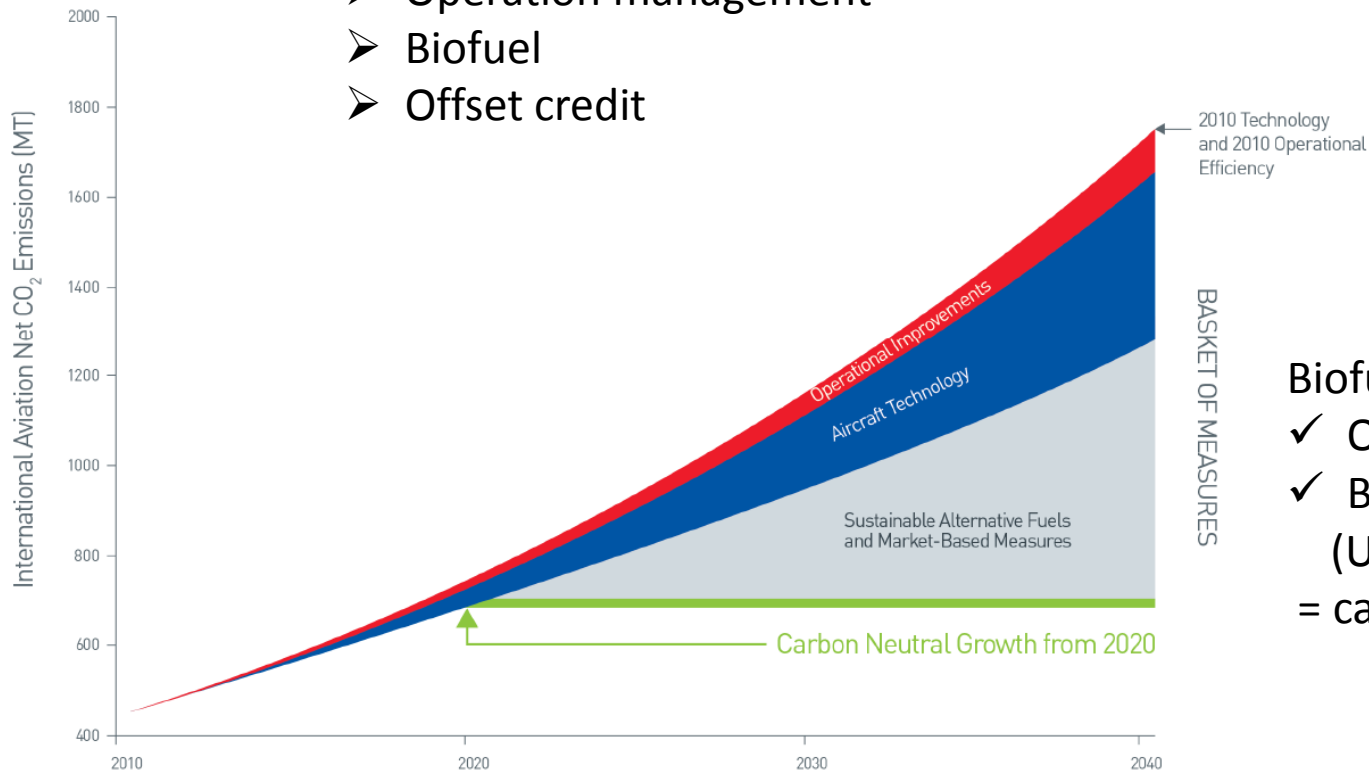
Hybrid Finance - project support and policy reform support



ICAO CNG and offset credit market

Basket measures including offset mechanism

- Efficiency of aircraft
- Operation management
- Biofuel
- Offset credit



Biofuel or offset credit

- ✓ Option for airlines
- ✓ Break even point (US \$ 15-25/Kwh) = carbon price US\$60-100

Pilot Phase : 2021-2023

1st Phase : 2024-2026

2nd Phase : 2027-2035

Voluntary Participation

(64 countries, more than 84% (RTK) covered)

Aviation Market in Asia and Pacific

Demand from Asia

| Rank | country | RTK share | Voluntary participation |
|------|---------------------|-----------|-------------------------|
| 1 | China | 11.76 | yes |
| 6 | Korea | 3.90 | yes |
| 7 | Singapore | 3.47 | yes |
| 10 | Japan | 2.74 | yes |
| 16 | Malaysia | 1.80 | yes |
| 17 | Australia | 1.66 | yes |
| 18 | Thailand | 1.59 | yes |
| 20 | India | 1.22 | no |
| | Subtotal | 28.14 | |
| | Subtotal with "yes" | 26.93 | |



Supply(potential)

| | |
|----------|-------------|
| CDM/SDM | |
| C-CER | (China) |
| JCM | (Japan) |
| J Credit | |
| KCU | (Korea) |
| ERF | (Australia) |
| T-VER | (Thailand) |

Connecting carbon markets

➤ **Modality of “linkage”**

- I. Integration of ETS
- II. Joint development of offset mechanism
- III. Sharing offset credit each other
- IV. Exchange of credits (not one-to-one exchange, but exchange rate)

➤ **Lessons from other experiences**

- I. Over 3000 years history of money but has not been integrated into single currency e.g. EURO ; meet conversion criteria for fiscal and monetary policy is a condition
- I. Exchange rate of commodity is determined by demand and supply
- II. National welfare is increased and cost is decreased by export and import of resources, products and services.

➤ **Likely scenario**

- I. In East Asia, there are many cross boarder investments. Demand for exchange is appeared.
- II. “Exchange rate” is determined by demand and supply.
- III. Exchange platform is necessary infrastructure
- IV. When adjustment on national inventory for export and import of reduction is agreed (Article 6 of Paris Agreement), project base reduction will be changed (CDM to JI 1st track).

