

Toward Carbon Neutrality
Perspectives on Carbon Pricing &
Carbon Border Adjustment
Mechanism in Japan

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Towards Carbon Neutrality

-Challenge of Japanese & EU industry and System-

RIETI -EU Japan Center for Industrial Cooperation Centre

Joint Webinar

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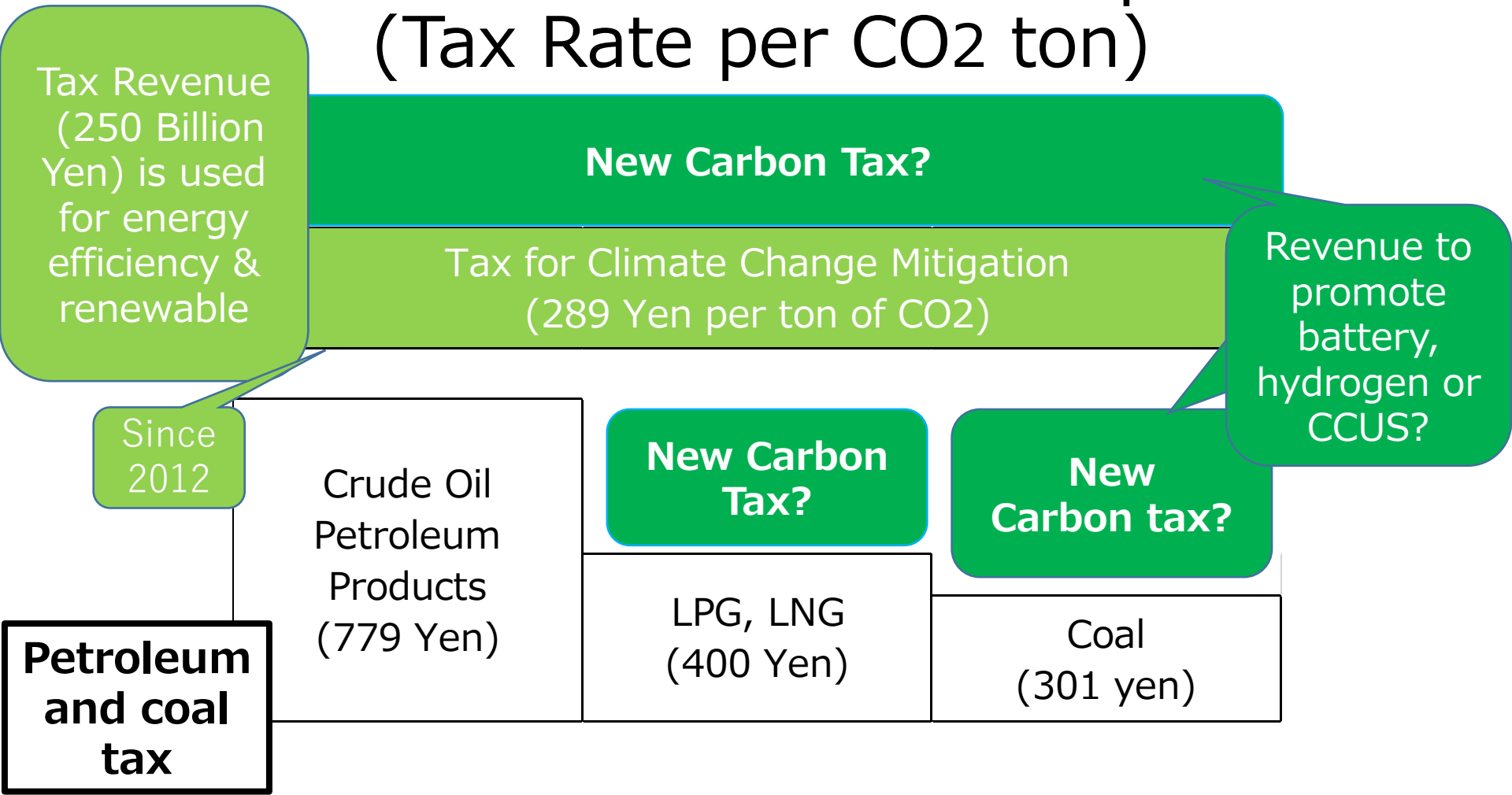
Director, Research Institute for Environmental
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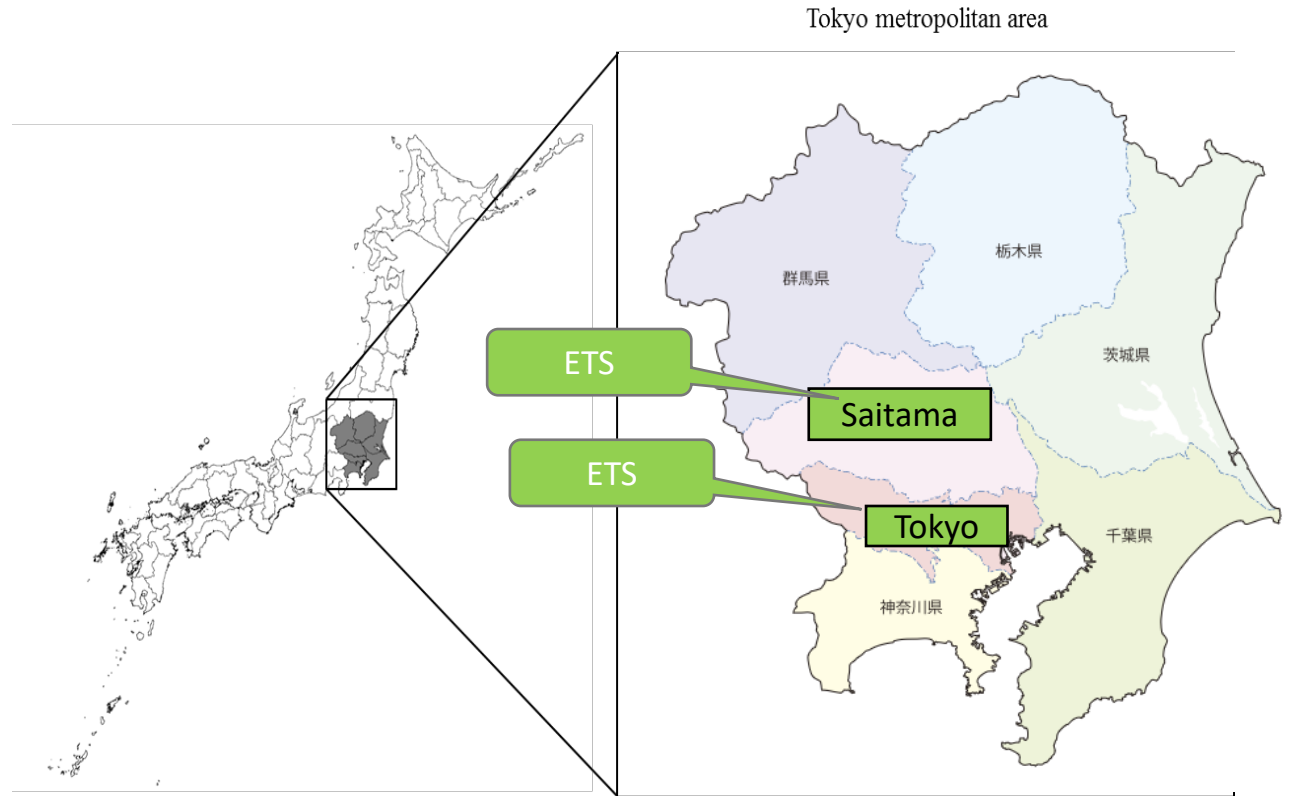
1. Carbon Pricing at the National Level



Current Carbon Tax in Japan (Tax Rate per CO2 ton)



Based on the Carbon Pricing Committee under Ministry of the Environment, Japan

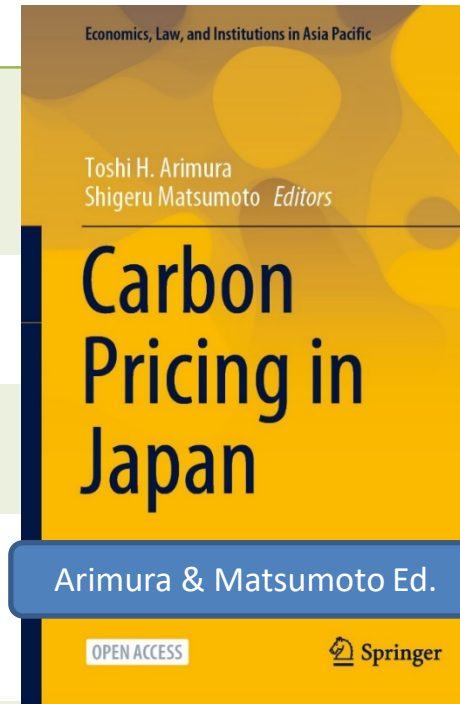


2.Regional Carbon Pricing

Tokyo/Saitama Emissions Trading Schemes

Subnational ETSs in Japan

| | Tokyo ETS | Saitama ETS |
|---|--|--|
| Reduction Target (Phase I) | 8% (Commercial), 6% (Manufacturing) | 8% (Commercial), 6% (Manufacturing) |
| Years | 2010-2014, 2015-2019, 2020-2023 | 2011-2014, 2015-2019, 2020-2023 |
| Sector | Manufacturing, Commercial | Manufacturing , Commercial |
| Number of Facilities | 1,300 (Commercial Building : 80%) | 600 (Manufacturing Plant : 70%) |
| Reduction | 25% in 2014 | 22% in 2014 |
| GDP share | 18.2% (2014) | 4.1% (2014) |
| GHG emissions (10 thousands t-CO ₂ ; 2014) | 6,716 4.9% (% in the total emissions in Japan) | 4,250 3.1% (% in the total emissions in Japan) |



<https://link.springer.com/book/10.1007/978-981-15-6964-7>

Currently, ETS or carbon tax at the national level are being discussed at METI and MOE

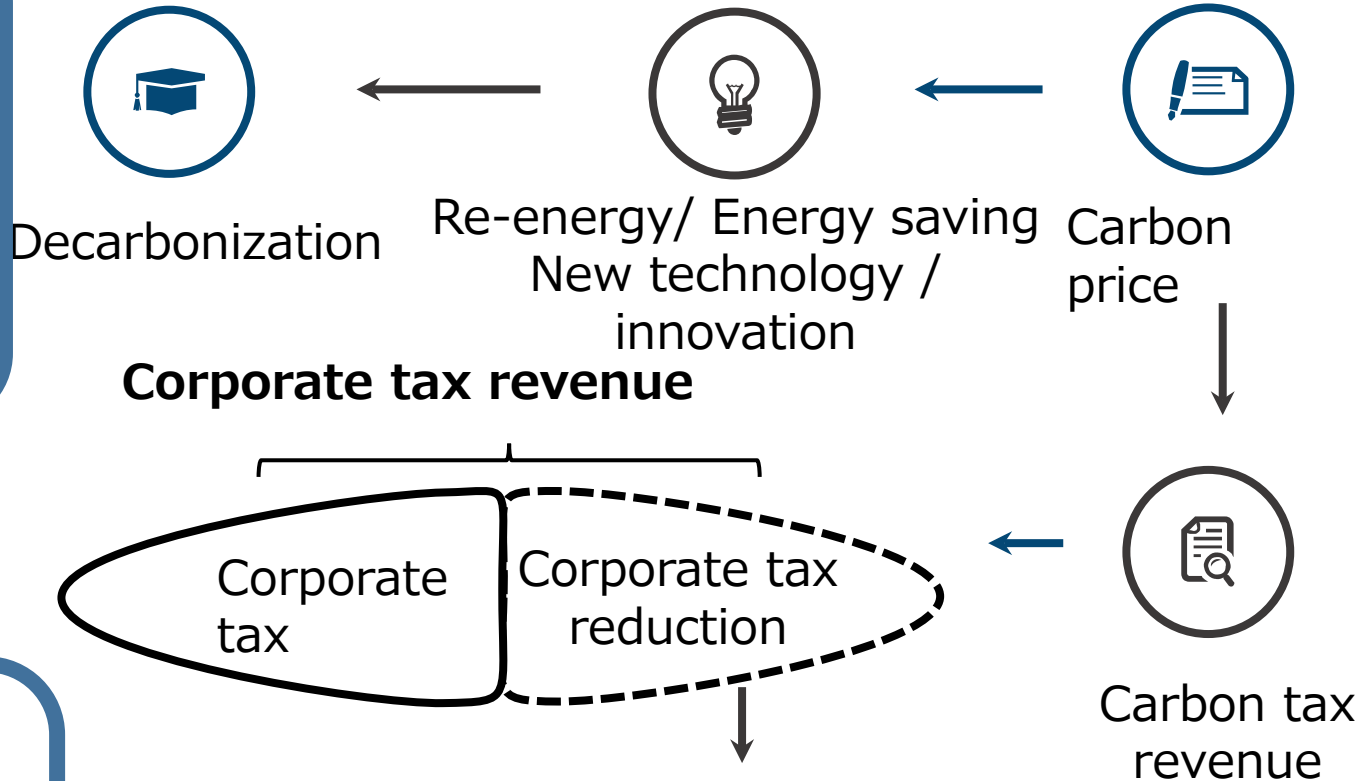
3. Carbon Pricing for Green Growth

Double Dividend of Carbon Tax
(From Takeda and Arimura (2021))

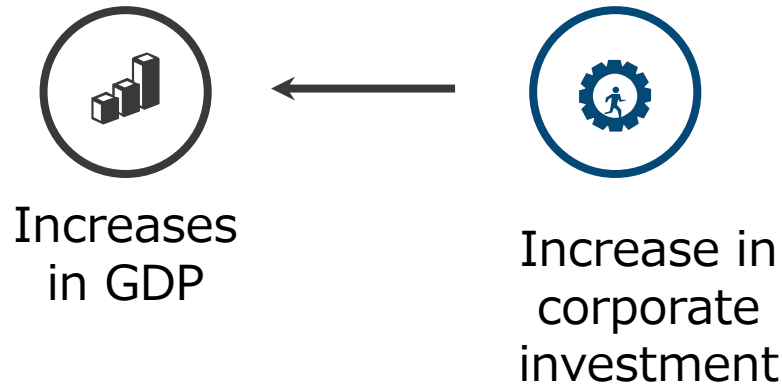


Double dividend of carbon pricing

1
First dividend

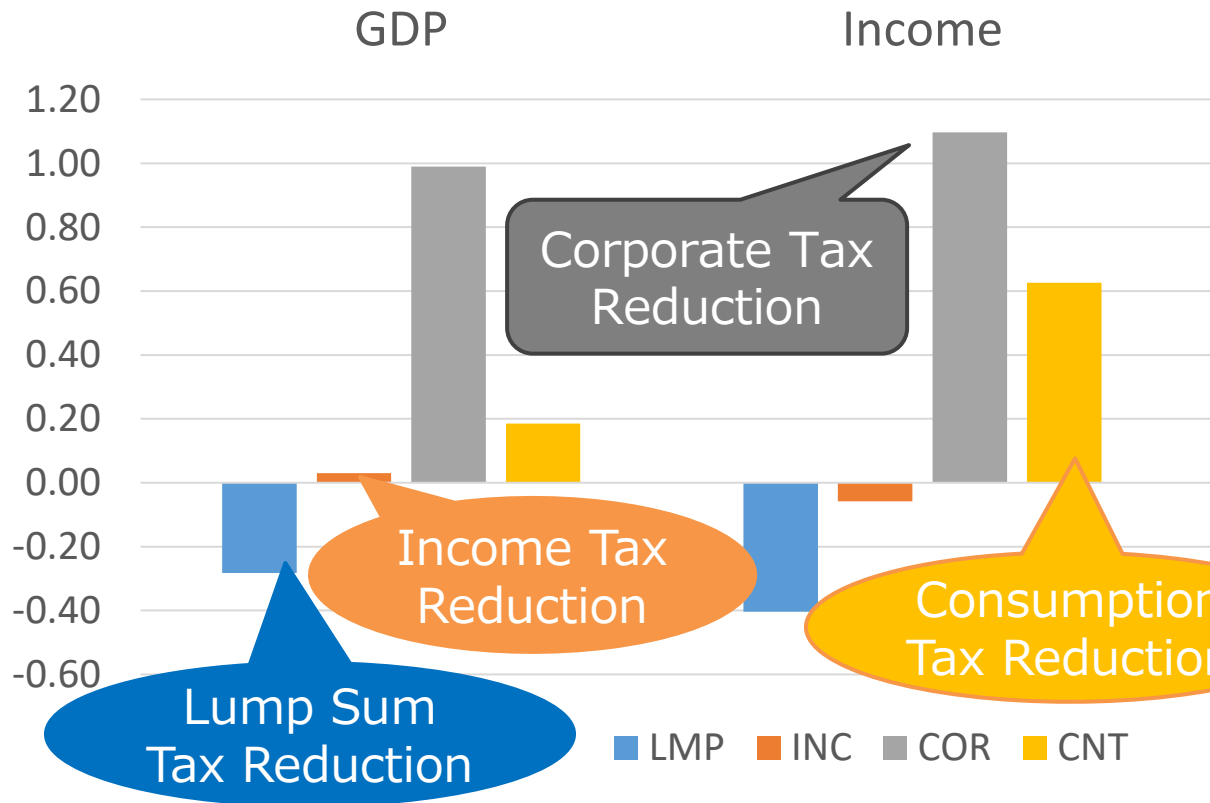


2
Second dividend



Double Dividend of Carbon Tax in 2030 (Takeda & Arimura, 2021)

Macroeconomic impacts (2030)



- **A Dynamic CGE Model**
- **Simulation to achieve 80 % reduction in 2050.**

- In terms of GDP and income, we have a strong double dividend with Corporate Tax Reduction or Consumption Tax Reduction.

4. Carbon Border Adjustment Mechanism (CBAM) for Japan?

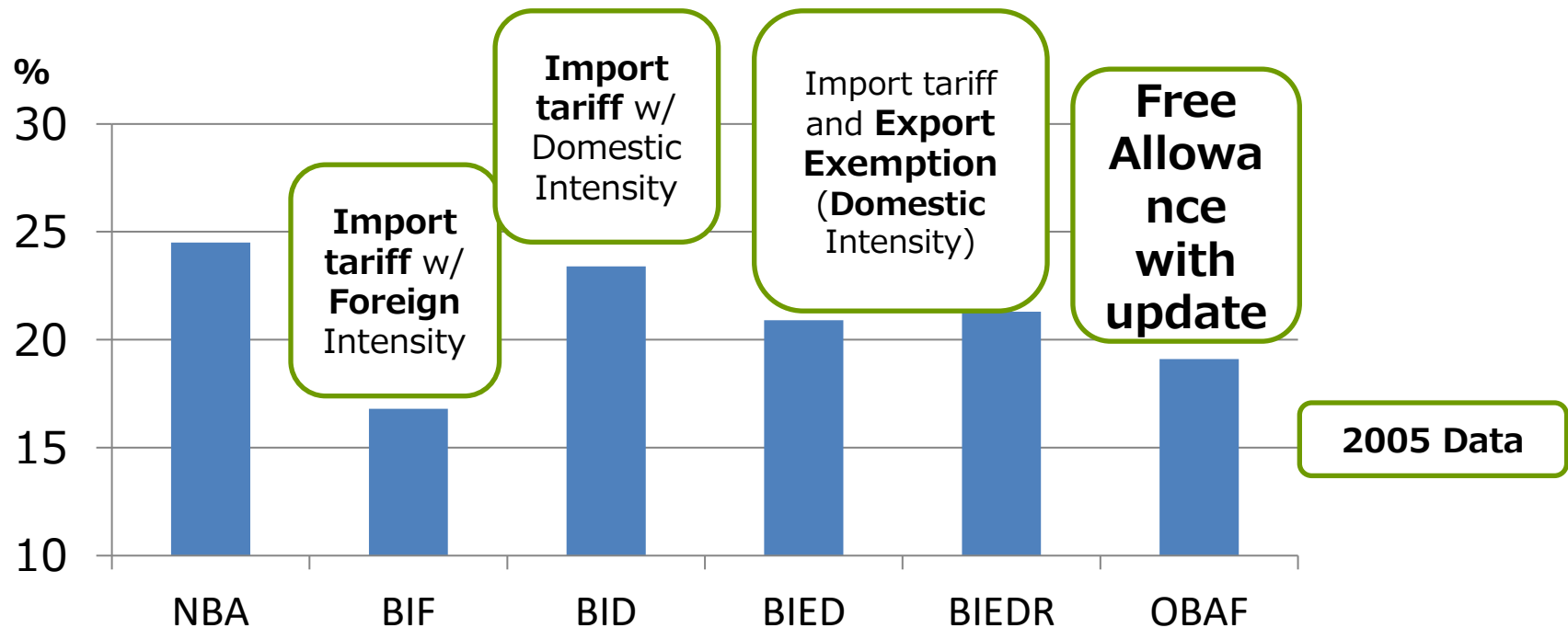
*Countermeasure
for Carbon leakage &
the Competitiveness Issues*



CBAM for Japanese Economy?

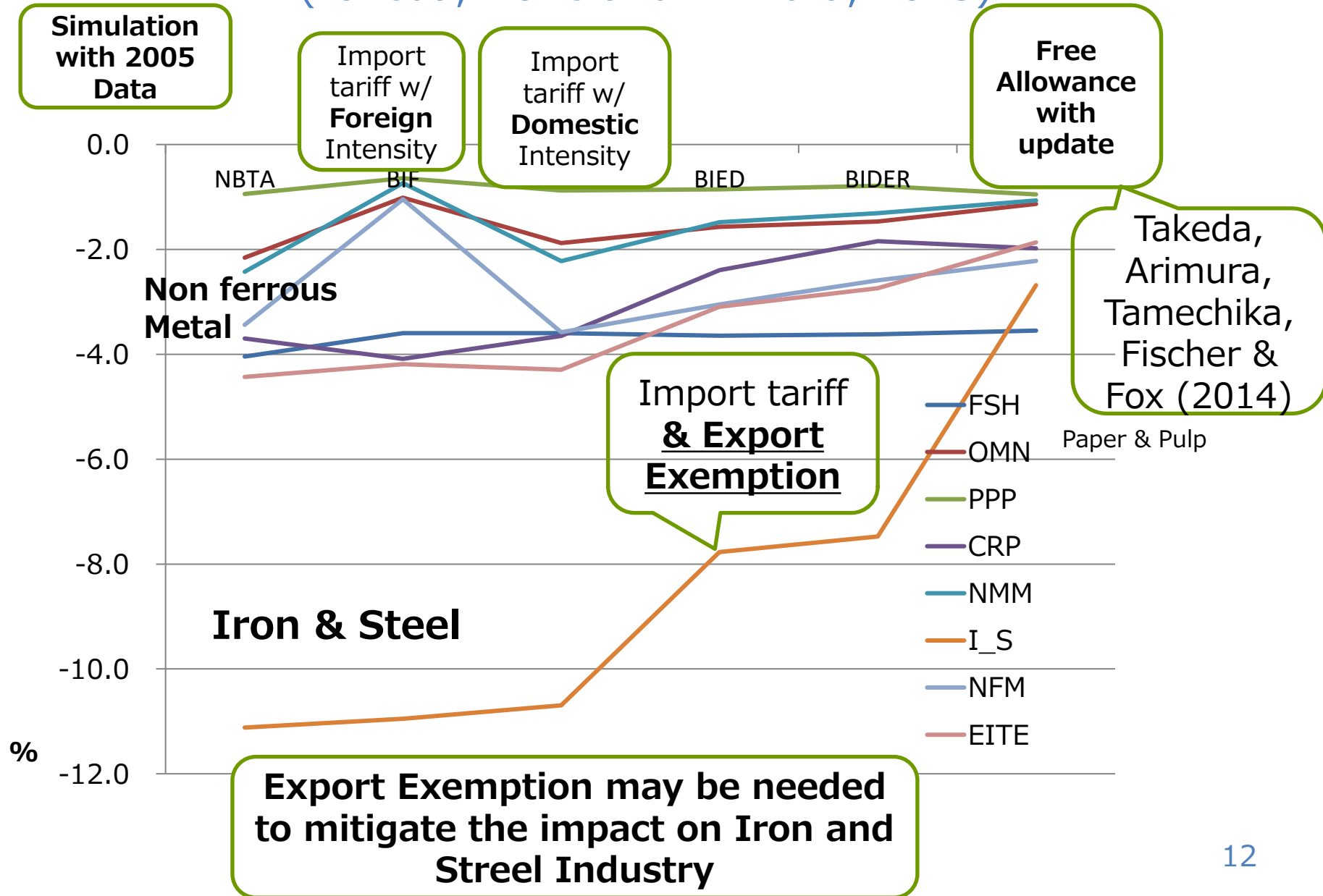
- Design Issue of CBAM
 - Domestic import only?
 - Exemption of Export?
 - How to identify carbon contents of product?
 - Domestic Level
 - Foreign Level
 - Which Sector?
 - Tax or ETS?
- Using 2005 data, Takeda, Horie and Arimura (2013) simulated the various design of CBAM for Japanese economy

Carbon Leakage under various CBAM for Japan (Takeda, Horie and Arimura, 2013)



- Among CBAM, one with foreign intensity is the most effective in controlling leakage.
- Free allowance with update is also effective.
- With the domestic carbon intensity, the export exemption is needed.

Impacts of CBAM on Output among Energy Intensive Trade Exposed Sectors in Japan (Takeda, Horie and Arimura, 2013)



References

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Thanks!