

*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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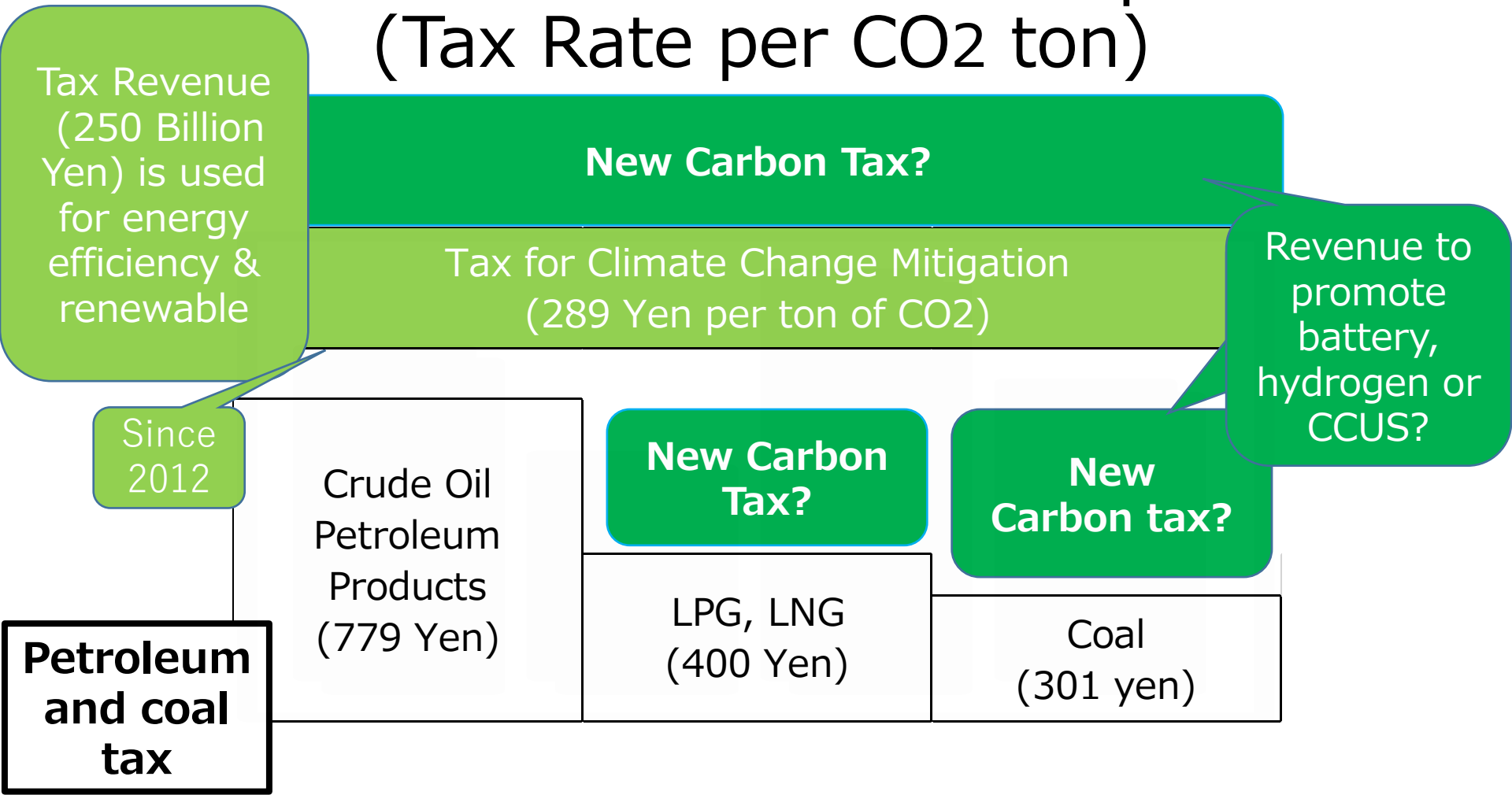
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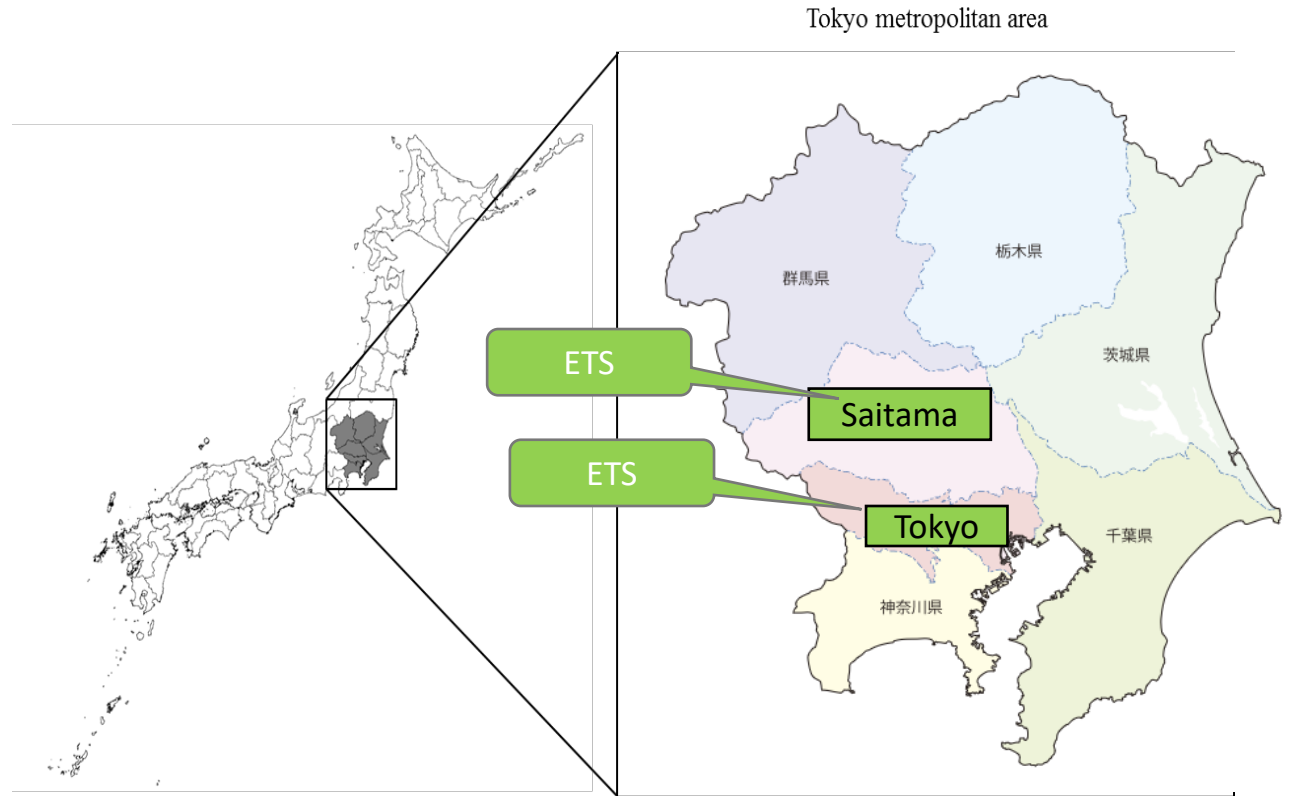
# 1. Carbon Pricing at the National Level



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



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

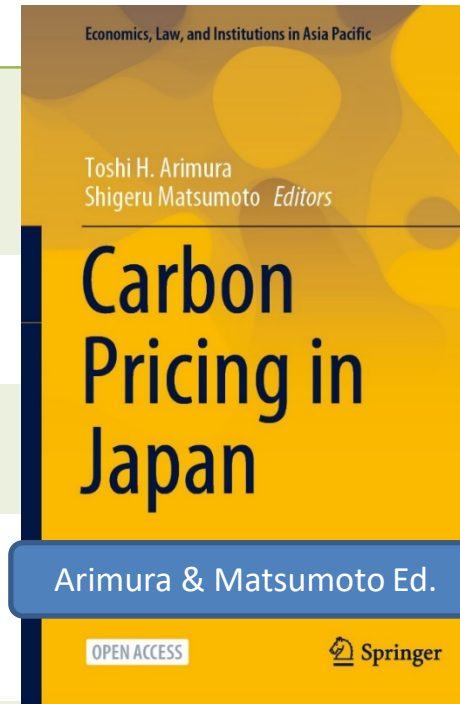


## 2.Regional Carbon Pricing

### *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, <b>2020-2023</b>	2011-2014, 2015-2019, <b>2020-2023</b>
Sector	Manufacturing, <b>Commercial</b>	<b>Manufacturing</b> , Commercial
Number of Facilities	1,300 (Commercial Building : 80%)	600 (Manufacturing Plant : 70%)
Reduction	<b>25% in 2014</b>	<b>22% in 2014</b>
GDP share	18.2% (2014)	4.1% (2014)
GHG emissions (10 thousands t-CO <sub>2</sub> ; 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

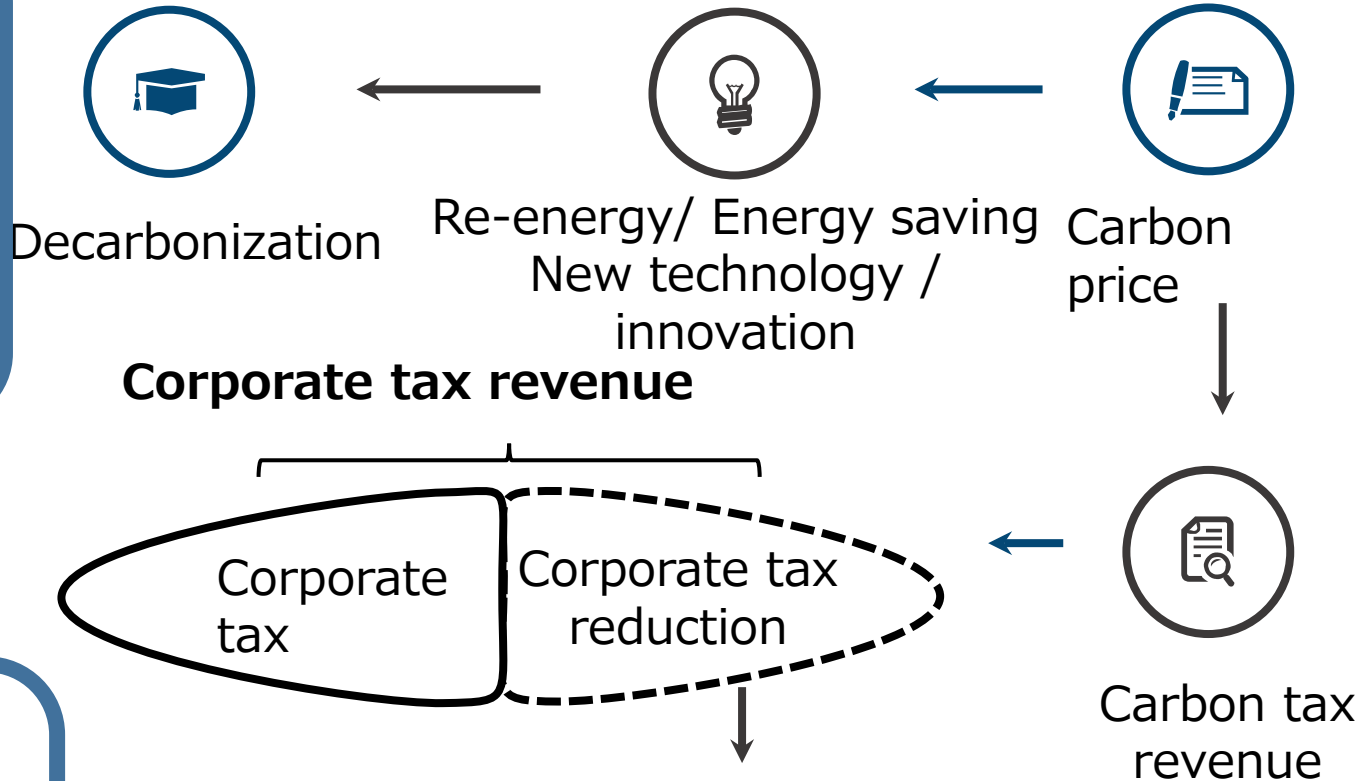
# 3. Carbon Pricing for Green Growth

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

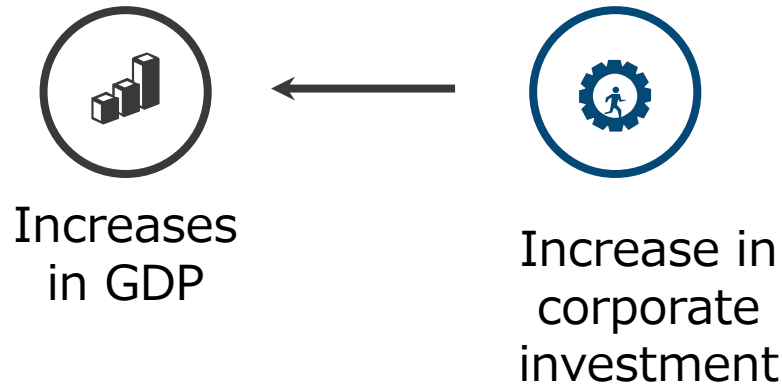


# Double dividend of carbon pricing

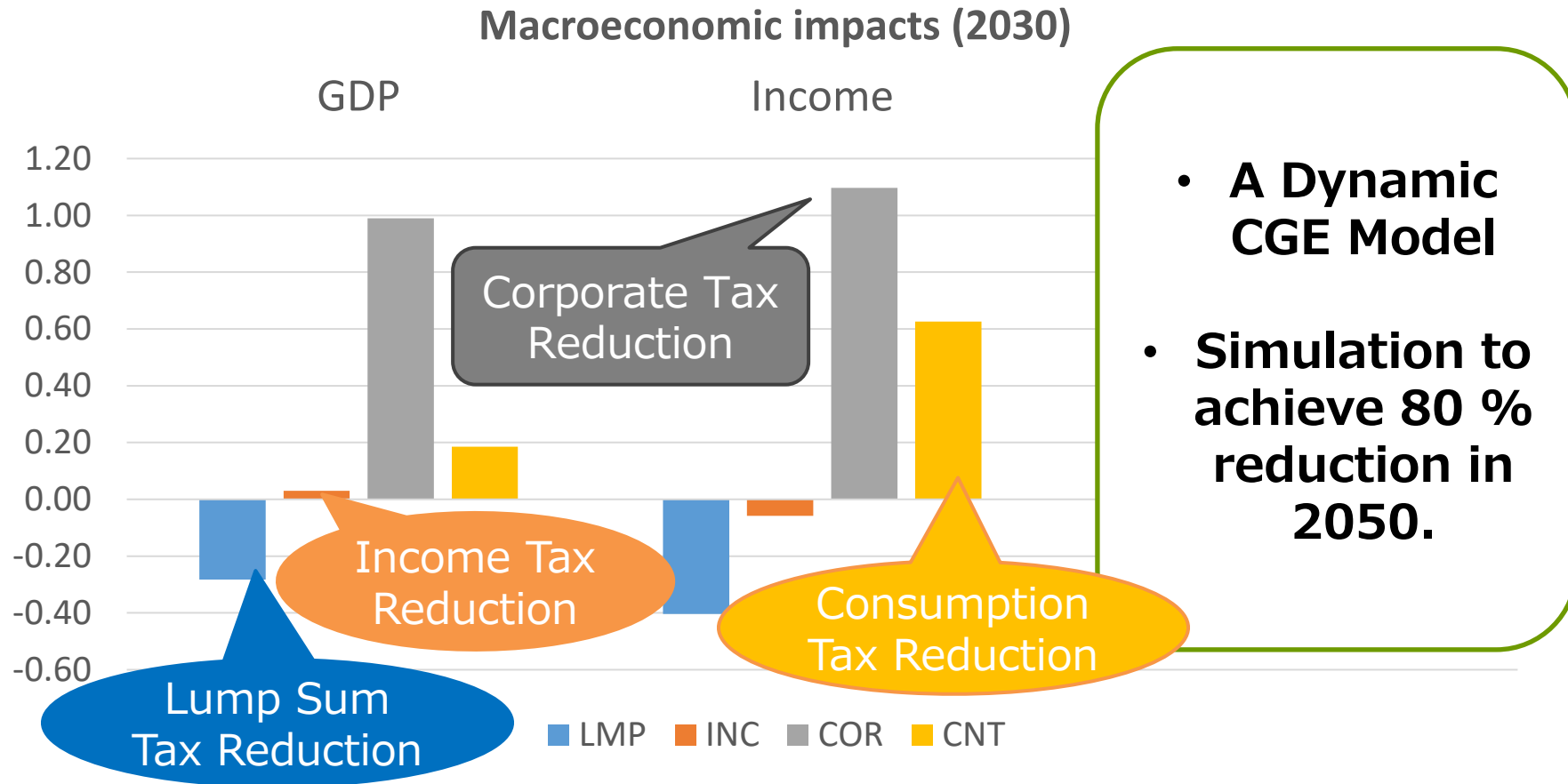
1  
**First dividend**



2  
**Second dividend**



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



- 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?

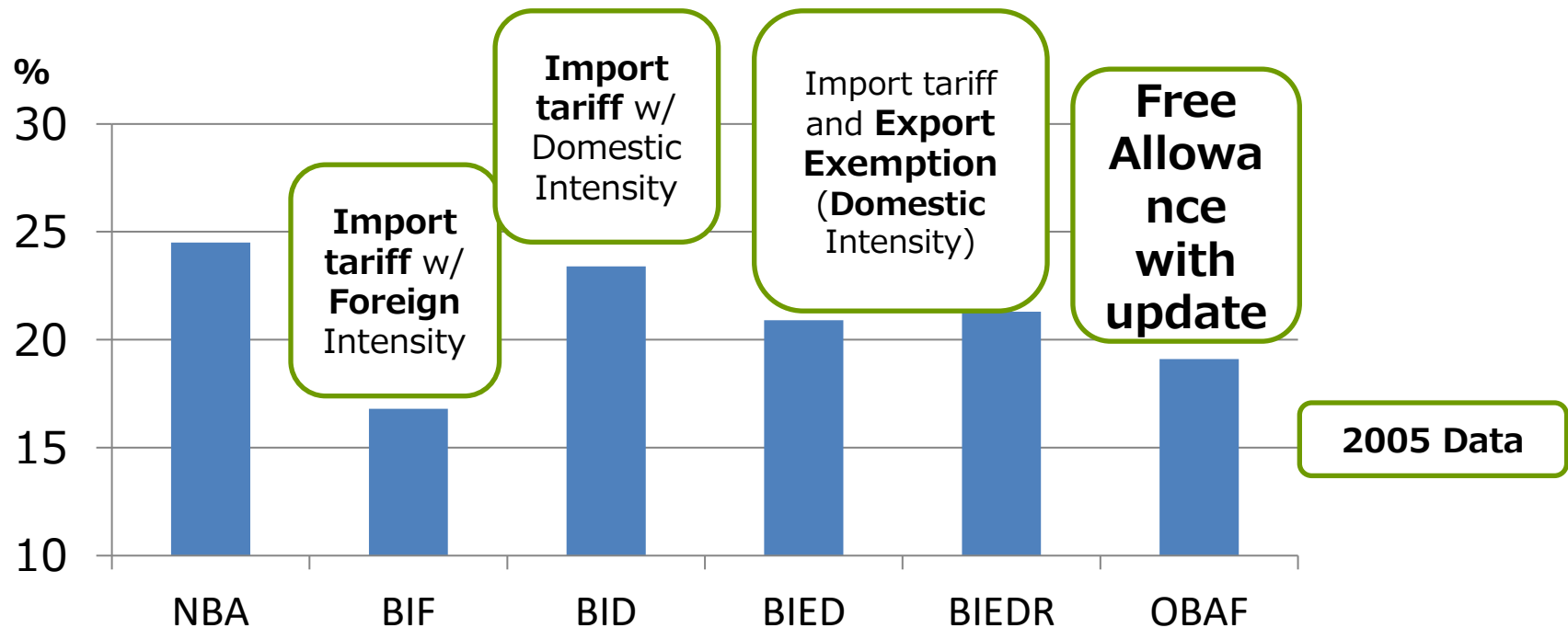
*Countermeasure  
for Carbon leakage &  
the Competitiveness Issues*



# CBAM for Japanese Economy?

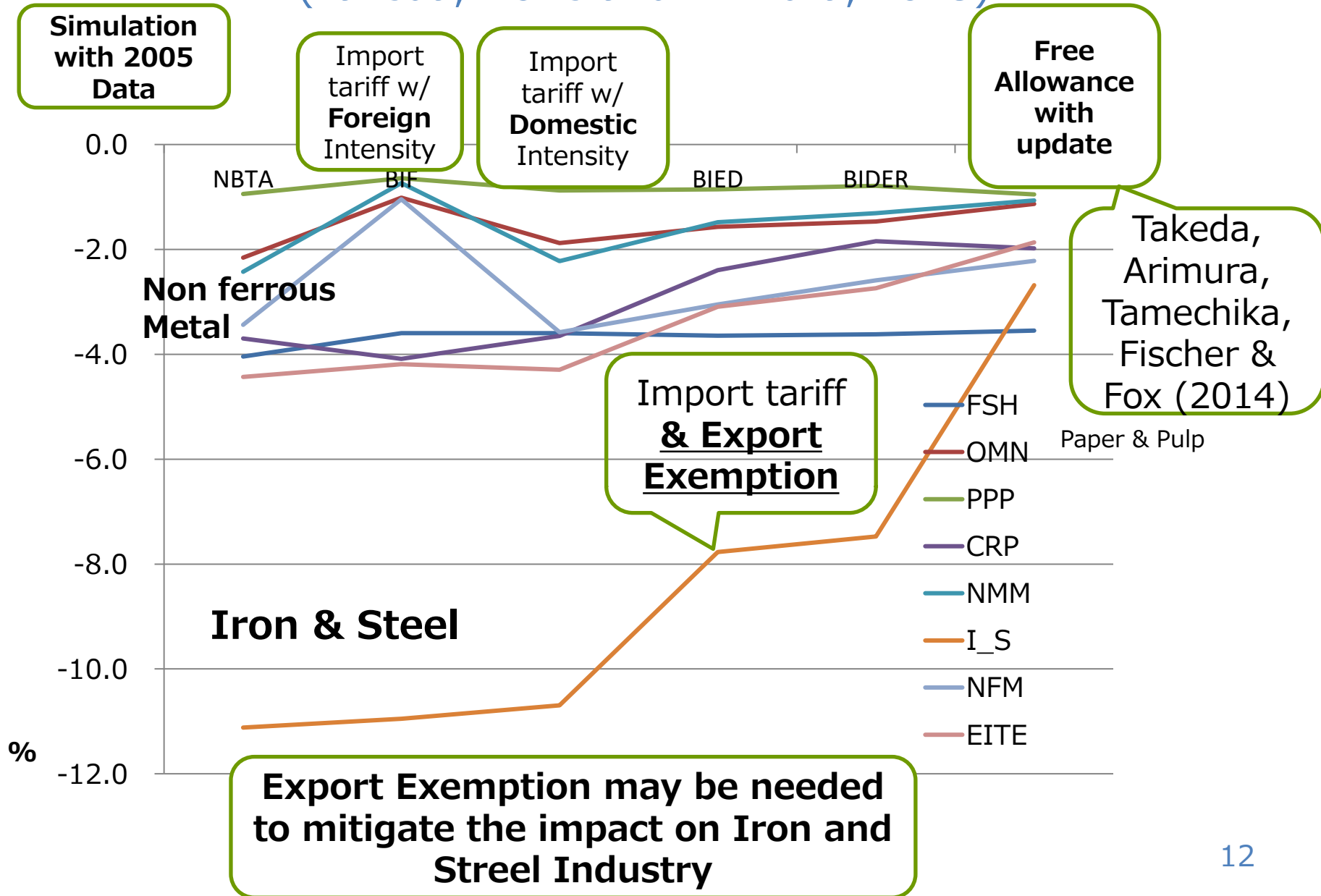
- Design Issue of CBAM
  - Domestic import only?
  - Exemption of Export?
  - How to identify carbon contents of product?
    - Domestic Level
    - Foreign Level
  - Which Sector?
  - Tax or ETS?
- Using 2005 data, Takeda, Horie and Arimura (2013) simulated the various design of CBAM for Japanese economy

# 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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- S. Takeda, T.H.Arimura, H. Tamechika, H, C. Fischer & A. K. Fox (2014) “Output-based allocation of emissions permits for mitigating the leakage and competitiveness issues for the Japanese economy,” Environmental Economics and Policy Studies, Vol.16, pp.89-110.

Thanks!