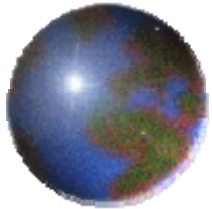




# *Virtual Carbon Trading*



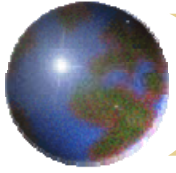
(Tom) HuTao

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(MEP), China

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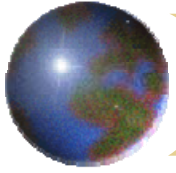
[taohu@uoregon.edu](mailto:taohu@uoregon.edu)

Brookings, June 9, 2008



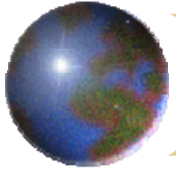
## *Talking points*

- Our study of virtual carbon trading
- 4 questions addressed
  - How large of carbon leakage to China?
  - What industries contribute most?
  - What bilateral trade relations are the most important?
  - What are the major implementation challenges for border adjustment measures?
- Policy practice of China



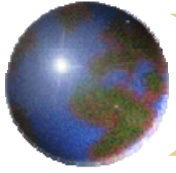
## *Our study of virtual carbon trading*

- ✦ Expert group of Trade and Environment, under MEP
  - ✦ WTO-CTE and bilateral negotiation support
  - ✦ Measurement of virtual carbon, sulfur and water by DRC-CGE model
  - ✦ Policy advices to Central Government of China
- ✦ Definition
  - ✦ Virtual carbon is defined as embedded carbon in goods or carbon content in products.
  - ✦ Similarly, virtual sulfur, virtual water etc



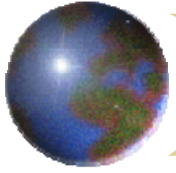
## *How large of carbon leakage to China?*

- ✪ By our own study, based on the DRC-CGE model, in 2005
  - ❖ 1.23 billion tons of carbon deficit, taking up 23% of total direct emission
  - ❖ 5.29 million tons SO<sub>2</sub> deficit, taking up about 39% of total industrial emissions
  - ❖ 61.5 billion tons of water resources, taking 12% of industry and agriculture using amount



## *What industries contribute most?*

- From our CGE model, the major contributors are
  - Iron & steel, coke
  - Cement
  - Chemical
  - Other manufactures



## *What bilateral trade relations are the most important?*

### • From China's view

- China-US

- China-EU

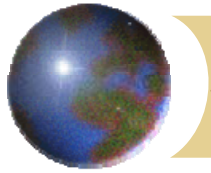
- China-Japan

- Increased intra-corporate trading of Japanese MNCs

- China-Canada

- China-Australia

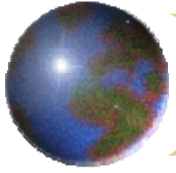
- And others



## China's virtual carbon trading in 2005

Unit: Mtoe

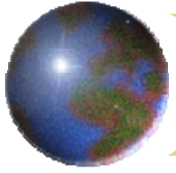
	exporting	importing	Difference
US	8.3	0.8	7.5
UK	1.0	0.1	0.9
Germany	1.6	0.2	1.4
France	0.6	0.1	0.5
Japan	4.6	1.2	3.4
Canada	0.6	0.2	0.5
Australia	0.6	0.7	-0.1
Others	23.9	12.4	11.5
Total	41.2	15.6	25.6



## *What are the major implementation challenges for border adjustment measures?*

- ➊ The blind and elephant
- ➋ From the viewpoint of climate regime
  - ❏ Annex I countries have not completely fulfilled their legal banding obligations due to carbon leakage
  - ❏ Annex I countries share their GHGs reduction responsibilities with non-Annex I without payments

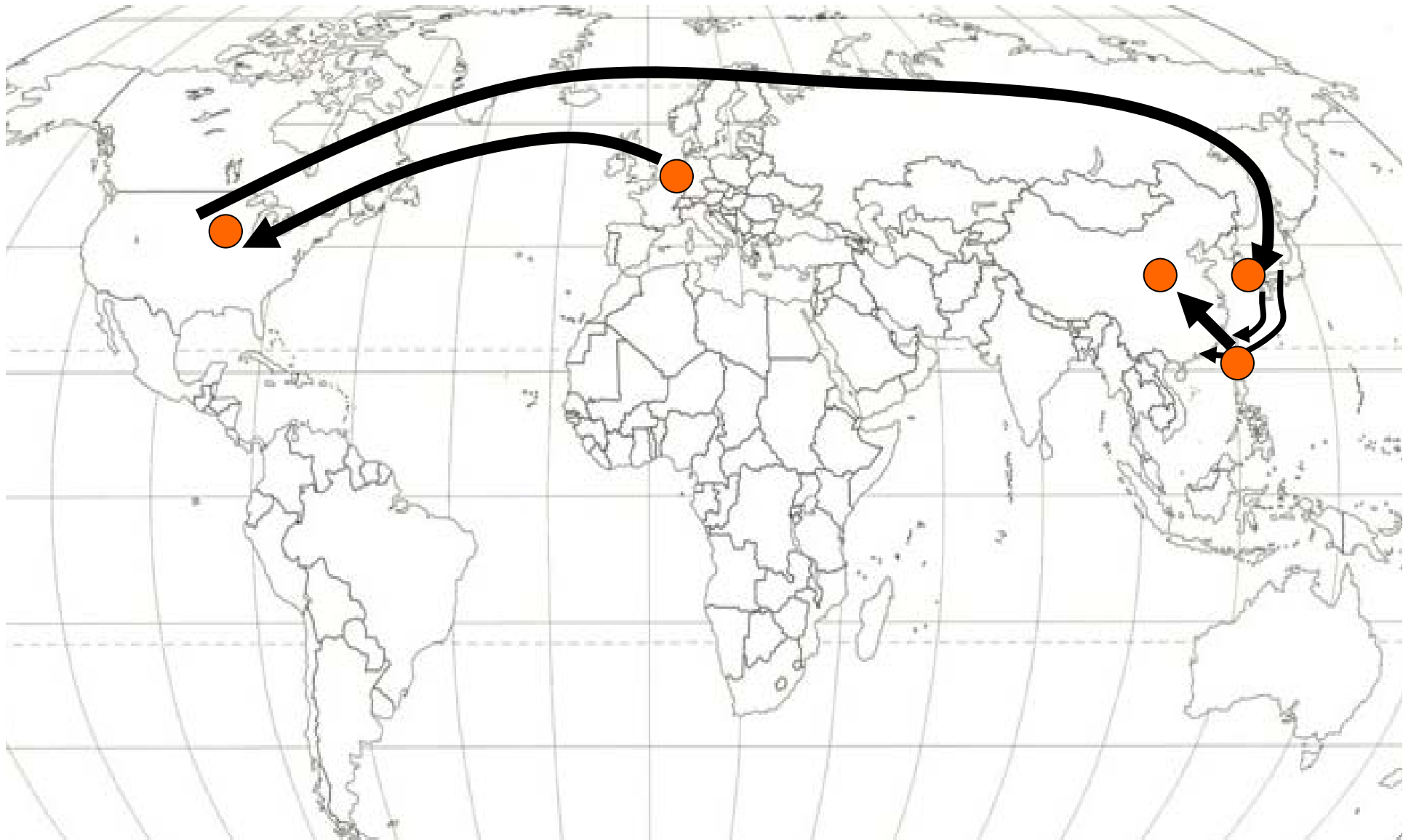




## *What are the major implementation challenges for border adjustment measures?*

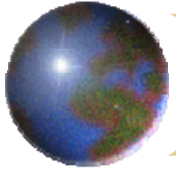
- ✚ From the viewpoint of trade regime
  - ✚ Competitiveness and subsidized agriculture products
  - ✚ Shrimp & Turtle case or consumer's environmental compensation for polluted air and water during production in order to internalize the environmental costs
  - ✚ Historical perspective of production and consumption

# *A historical perspective of production*



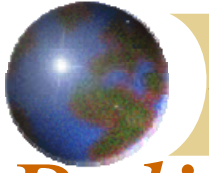
# *Trade associated with Consumption*





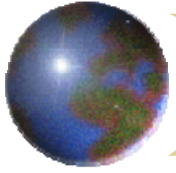
## *Policy practice of China*

- Who are going to overcome global market failure of international trade?
  - WTO, UNCTAD
  - IMF, WB
  - UNEP, MEAs
  - UNEO, GEO



# *Policy practice of China*

- ✿ Export tariff for environmental purpose
  - ✚ Energy intensive products at the rate of 5-25%, such as iron and steel, coke
- ✿ Exporting limitation
  - ✚ Permit and quota for high pollution and high energy consumption products, for example, coke
  - ✚ Black name list of firms based on their environmental performance
- ✿ Exporting promotion
  - ✚ Eco-labeled products mutual recognition and promotion
  - ✚ Green name list (China's environmental friendly company) of firms based on their environmental performance



*Thank you!*