Climate Change and Perspectives for Japan-EU Cooperation
January 23, 2008
Chamber of Commerce and Industry, Ljubljana, Slovenia

GHGs Emissions Trading Discussion in Japan

Hidenori NIIZAWA
University of Hyogo, Japan
contents

• recent developments of domestic policy in Japan

• discussions on emission trading in Japan
  – observation of EU-ETS
Target Achievement Plan

- revised in March, 2008
- Domestic emissions trading is still one of the subjects of immediate further consideration.
- deepening and widening voluntary action
  - additional 18 MtCO₂ reduction
- Large amount of reduction by household and business is expected.
GHGs emission estimating and reporting system since 2007 - preparation of new policy?

- industrial: site base
  - EU-ETS = installation base
- office: site base
- surface transportation: company base
  - like EU-ETS aviation proposal
Voluntary action in 2007

• included in the Target Achievement Plan
• Governments review each sector as a whole since 1998.

• 35 industrial sectors
• target year: 2010

• absolute target: iron & steel,
• rate-based target: power, chemical, paper, cement, electrical machinery, oil,

• achieved: 24 sectors
• tightened: 21 sectors
• not achieved: 11 sectors
Kyoto Mechanisms

voluntary action and Kyoto Mechanisms

<table>
<thead>
<tr>
<th>industrial sector</th>
<th>emission in 2006*</th>
<th>unit of target</th>
<th>base</th>
<th>target</th>
<th>2006</th>
<th>planned purchase*</th>
</tr>
</thead>
<tbody>
<tr>
<td>iron &amp; steel</td>
<td>193</td>
<td>energy consumption (PJ)</td>
<td>2527</td>
<td>2274 (-10%)</td>
<td>2394</td>
<td>8.8</td>
</tr>
<tr>
<td>power</td>
<td>365</td>
<td>kg-CO$_2$/kWh</td>
<td>0.417</td>
<td>0.34 (-20%)</td>
<td>0.441</td>
<td>24.0</td>
</tr>
</tbody>
</table>

planned governmental purchase
CERs, ERUs, greened AAUs
20 MtCO$_2$ per year

* MtCO$_2$ per year
Voluntary Emissions Trading Scheme

- Since 2005
  - 31 company participated in 2005
  - 58 in 2006, 61 in 2007
- subsidy of one third investment cost
  - incentive of voluntary commitment
- Subsequent one year is commitment period.
- 13 of 31 was buyer.
Domestic CDM

• initiated by METI
• offset at sources not included in voluntary action

• issues
  – Baseline
  – boundary consistency with emissions trading in the future
objections against emissions trading

• general
  – absolute cap restricts economy
  – difficulty of equitable initial allocation

• based on observation of EU-ETS
  – volatile price
  – lack of incentive for innovation
  – distortions
three channels of emission reduction

• abatement
• output reduction or substitution
• input reduction or substitution

• Cost-effective emission reduction can be achieved by equalizing marginal cost of those three channels.
allocation method

• *auction*
• free allocation
  – *grandfathering*
    • one time perpetual free allocation based on the actual emission, output or input in a past base year
      – no allocation for new entrants
      – allocation for closed plants
      – no ex-post adjustment
– current allocation
  • free allocation based on current output or input multiplied by some emission factor

– updating
  • free allocation based on the actual emission, output or input in a previous year or previous period
distortions by initial allocation

- Purpose of emissions trading is cost reduction.
- Distortions increase the cost.
- auction and grandfathering: not distortional
• current allocation: distortional
  – The incentive to reduce emissions by reducing output or input is foregone.
  – results in excessive high output or input use

• updating: distortional
auction in 2\textsuperscript{nd} phase of EU-ETS

\begin{tabular}{|l|c|c|}
\hline
 & \text{Mt CO}_2 & \% \\
\hline
Germany & 40.00 & 8.8 \\
UK & 17.23 & 7.0 \\
Italy & 11.28 & 5.8 \\
\hline
\end{tabular}

✓ distributional concern (windfall profit) or efficiency concern (distortion)?
auction in 3\textsuperscript{rd} phase and beyond?
conclusion

✓ Transition to an auction system is necessary.

✓ Increasing auction unilaterally by EU is difficult to agree because of competitiveness concern.

✓ We had better increase auction multilaterally.

✓ Part of revenue of auction can be used for adaptation internationally.
I would like to thank Chamber of Commerce and Industry of Slovenia, European Union, especially the presidency country Slovenia, and Ministry of Foreign Affairs of Japan.

niizawa@econ.u-hyogo.ac.jp