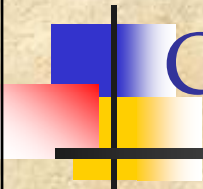


ERINA Policy Proposal Seminar

Post-2012 Cooperation Schemes in  
Northeast Asia to Combat Climate  
Change



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# Outline

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- Background
- NEA Policies on Post-2012 Climate Negotiations
- NEA Economies and Emissions: Current Status
- Country Highlights to Curb Climate Change
- Policy Proposals for NEA Cooperation Schemes on Climate Change
- Conclusion



## Background (a): ERINA's Research on Climate Change Issues

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- 2004-2007, Research on application of the Kyoto Mechanisms in Northeast Asia (Sessions at 2004, 2005, 2007 NEA Economic Conferences in Niigata, 2006, NEA Environment Experts Meeting in Harbin, China);
  - 2007: Enhancing the Environmental Cooperation in Northeast Asia in a New Dimension: Regional Cooperation on the Kyoto Mechanisms, ERINA Booklet Vol.5;
- Since 2008, Research on Northeast Asia environment and energy cooperation in the post-2012 period (Sessions at 2009, 2010 NICE in Niigata);
- Since 2008, ERINA became an observer organization in the UNFCCC sessions and participated in COP 14 and COP 15;
- ERINA plans to organize a side-event on NEA during the upcoming COP 16 in Mexico;

## Background (b):

# UN Climate Change Negotiations & NEA

Table 1 Ratification Dates and Country Groups

| NEA countries | UNFCCC<br>(Adopted: Jun. 1992;<br>Effect. 1994) | Kyoto Protocol<br>(Adopted: COP 3,<br>Dec. 1997;<br>Effect. 16 Feb. 2005) | Country Groups             |                                     |
|---------------|---|---|----------------------------|-------------------------------------|
|               |   |   | UNFCCC                     | Other                               |
| Japan         | May 1993  | Jun. 2002   | Annex I<br>Parties         | Developed                           |
| Russia        | Dec. 1994                                       | Nov. 2004   |                            | Economy in transition               |
| ROK           | Dec. 1993                                       | Nov. 2002   | Non-<br>Annex I<br>Parties | OECD member                         |
| China         | Jan. 1993                                       | Aug. 2002   |                            | Developing economy                  |
| Mongolia      | Sep. 1993                                       | Dec. 1999   |                            | Developing economy<br>in transition |
| DPRK          | Dec. 1994                                       | Apr. 2005   |                            | Socialist, planned<br>economy       |



## Background (c): Post-2012 Climate Change Negotiations

### ■ Bali Action Plan

*(COP 13, Bali, Indonesia)*

#### Key elements:

- A shared vision for long-term cooperative action;
- Mitigation;
- Adaptation;
- Technology development and transfer;
- Financial resources and investment;

### ■ Copenhagen Accord

*(COP 15, Copenhagen, Denmark)*

#### Main points:

- Global GHG emission reduction as to limit global temperature rise below 2<sup>o</sup>C;
- Financing:
  - \$30 billion in 2010-2012;
  - \$100 billion per annum by 2020;
- Others:
  - MRV (measurable, reportable and verifiable);
  - REDD (reduced emissions from deforestation & forest degradation in developing countries);
  - CGCF (Copenhagen Green Climate Fund), Technology Mechanism;
  - Review the Accord by 2015.

## NEA Policies on Post-2012 Climate Negotiations (a)

Table 3 Quantified economy-wide emissions targets for 2020 as submitted to UNFCCC Secretariat

| Annex I Parties                  | Copenhagen Accord, Annex I   |
|----------------------------------|--|
| <b>Japan</b><br>(Jan. 26, 2010)  | 25% GHG emission reduction from 1990 level upon establishing: <ul style="list-style-type: none"> <li>■ A fair and effective international framework;</li> <li>■ With participation of all major economies and their agreements on ambitious targets</li> </ul>   |
| <b>Russia</b><br>(Jan. 29, 2010) | 15-25% emission reduction from 1990 level upon: <ul style="list-style-type: none"> <li>■ Appropriate accounting of Russia's forestry in meeting the obligations;</li> <li>■ Legally-binding GHG emission reduction obligations by all major emitters;</li> </ul> |

Source: <http://unfccc.int>

## NEA Policies on Post-2012 Climate Negotiations (b)

Table 4 NAMA\* of Developing Country Parties as submitted to UNFCCC Secretariat

| Annex I Parties             | Copenhagen Accord, Annex II   |
|-----------------------------|---|
| ROK<br>(Jan. 25, 2010)      | National GHG emission cut by 30% from the BAU emissions by 2020;  |
| China<br>(Jan. 28, 2010)    | <ul style="list-style-type: none"> <li>■ Per unit GDP CO<sub>2</sub> emission cut by 40-45% by 2020 from 2005 level;</li> <li>■ Share of non-fossil fuel in primary energy consumption to be increased to around 15% by 2020;</li> <li>■ Increase of forest coverage by 40 mil. ha &amp; forest stock by 1.3 billion m<sup>3</sup> by 2020 from 2005 levels;</li> </ul> |
| Mongolia<br>(Jan. 28, 2010) | Introduced various GHG emission reduction potentials in energy supply, industrial energy efficiency, transport, agriculture and forestry sectors;   |

\* Nationally Appropriate Mitigation Actions

Source: <http://unfccc.int>

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## NEA Economies and Emissions (a)

Table 2 Selected Indicators, 2007

| Indicators   | Annex I Parties     |                     | Non-Annex I Parties  |                     |                    |                     | NEA share of world           |
|--|---------------------|---------------------|----------------------|---------------------|--------------------|---------------------|------------------------------|
|  | Japan               | Russia              | ROK                  | China*              | Mongolia           | DPRK                |                              |
| GDP PPP<br>(2000 US\$ billion)   | 3,620.2<br>(26.30%) | 1,603.7<br>(5.30%)  | 1,065.7<br>(148.9%)  | 9,911.8<br>(437%)   | 6.9<br>(62.30%)    | 40<br>(-26.9%)      | 26.5%<br>(1990:<br>20.2%)    |
| Per capita GDP PPP<br>(2000 US\$)  | 28,336.5<br>(22%)   | 11,322.9<br>(10.2%) | 21,994.2<br>(120.2%) | 7,509.0<br>(361.9%) | 2,649.7<br>(30.8%) | 1,683.2<br>(-38.1%) | w. av.<br>9,294.2<br>(46.8%) |
| TPES<br>(million toe)  | 513.5<br>(17.2%)    | 672.1<br>(-22.7%)   | 222.2<br>(138.7%)    | 1,955.8<br>(126.6%) | 3.1<br>(-9.7%)     | 18.4<br>(-44.7%)    | 28.1%                        |
| CO <sub>2</sub> emissions from<br>fuel combustion,<br>sectoral approach<br>(million tCO <sub>2</sub> ) | 1, 236.3<br>(16.1%) | 1,587.4<br>(-27.2%) | 488.7<br>(113.1%)    | 6,027.9<br>(172.6%) | 11.3<br>(-10.9%)   | 62.3<br>(-45.3)     | 32.5%<br>(1990:<br>27.7%)    |

Notes: 1. Figures in parentheses are the changes from 1990; 2. \*Excludes Hong Kong;

Source: CO<sub>2</sub> Emissions from Fuel Combustion: Highlights, 2009 Edition, IEA, Paris.



## NEA Economies and Emissions (b)

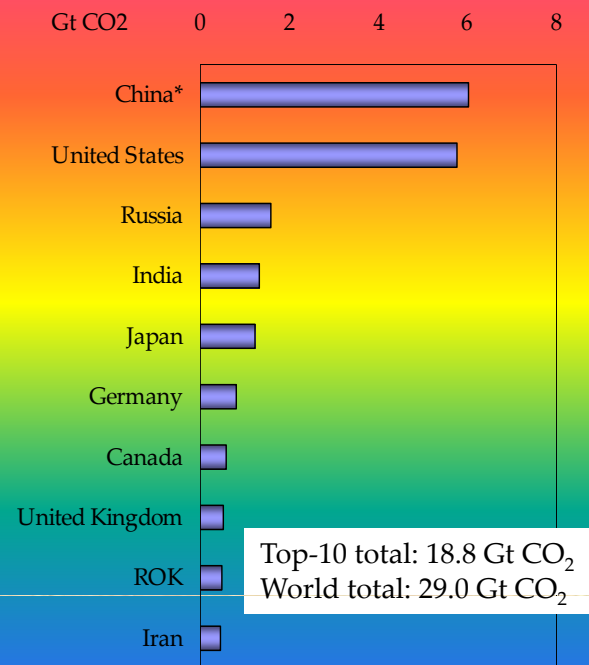
Table 2 Selected Indicators, 2007 (cont-d)

| Indicators  | Annex I Parties |                  | Non-Annex I Parties |                  |                  |                  | World            |
|---|-----------------|------------------|---------------------|------------------|------------------|------------------|------------------|
|   | Japan           | Russia           | ROK                 | China*           | Mongolia         | DPRK             |                  |
| CO <sub>2</sub> /GDP PPP<br>(kgCO <sub>2</sub> per 2000 US\$) | 0.34<br>(-8.1%) | 0.99<br>(-30.8%) | 0.46<br>(-14.3%)    | 0.61<br>(-49.2%) | 1.63<br>(-45.1%) | 1.56<br>(-25.2%) | 0.47<br>(-25.2%) |
| CO <sub>2</sub> /population<br>(tCO <sub>2</sub> per capita)  | 9.68<br>(12.2%) | 10.09<br>(88.6%) | 11.21<br>(-23.8%)   | 4.57<br>(134.5%) | 4.32<br>(-28.1%) | 2.62<br>(-53.7%) | 4.38<br>(9.8%)   |
| CO <sub>2</sub> /TPES,<br>(tCO <sub>2</sub> per TJ)           | 57.5<br>(-1%)   | 56.4<br>(-5.7%)  | 52.5<br>(-10.7%)    | 73.6<br>(20.3%)  | 87.3<br>(-1.4%)  | 81.0<br>(-1.2%)  | 57.5<br>(0.5%)   |

Notes: 1. Figures in parentheses are the changes from 1990; 2. \*Excludes Hong Kong;  
Source: CO<sub>2</sub> Emissions from Fuel Combustion: Highlights, 2009 Edition, IEA, Paris.

## NEA Economies and Emissions (c)

Figure 1 Top 10 Emitting Countries in 2007



Among the Top-10 emitters worldwide in 2007:

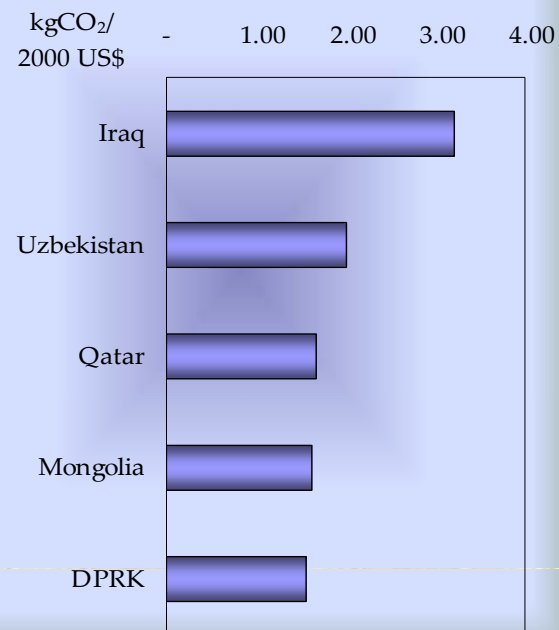
- Four countries in NEA:
  - China
  - Russia
  - Japan
  - ROK

Total NEA- 4: 9.3 Gt CO<sub>2</sub>

Source: CO<sub>2</sub> Emissions from Fuel Combustion: Highlights, 2009 Edition, IEA, Paris.

## NEA Economies and Emissions (d)

Figure 2 Top-5 Emission Intensive Economies



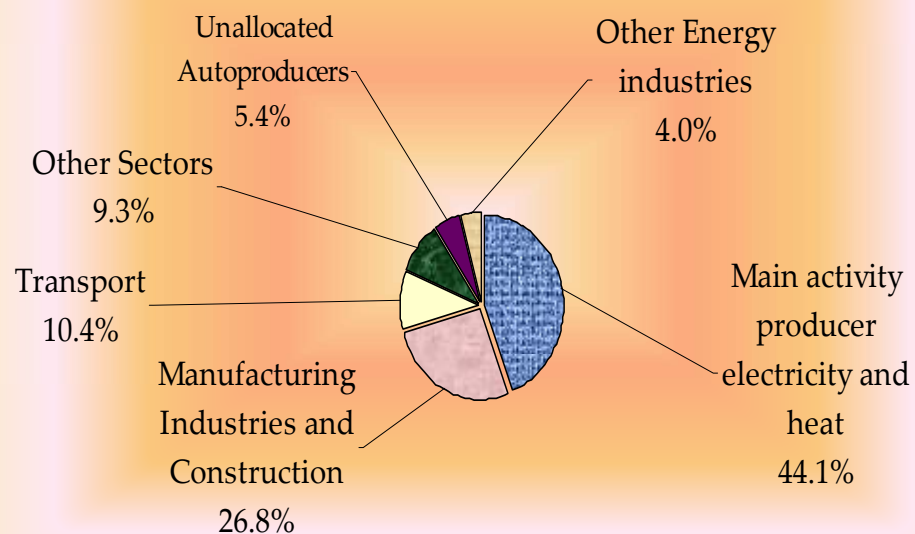
Among the Top -5 emission intensive economies worldwide in 2007:

- Two countries in NEA:
  - Mongolia  
1.63 kg CO<sub>2</sub>/2000 US\$
  - DPRK  
1.56 kg CO<sub>2</sub>/2000 US\$
- World av. 0.47 kg CO<sub>2</sub>/2000 US\$

Source: CO<sub>2</sub> Emissions from Fuel Combustion: Highlights, 2009 Edition, IEA, Paris.

## NEA Economies and Emissions (e)

Figure 3 CO<sub>2</sub> Emission Structure by Sectors in NEA  
2007



### Major emitters in 2007:

- Electricity & heat production (44%);
- Manufacturing & construction (27%)
- Transport (10.4%)

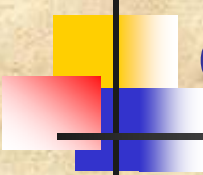
Source: Estimated from CO<sub>2</sub> Emissions from Fuel Combustion: Highlights, 2009 Edition, IEA, Paris.



## Country Highlights to Curb Climate Change: ROK

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- Since 2007: Domestic GHG emission reduction registration program;
- 15 Aug. 2008, President Lee proclaimed “Low-carbon, Green Growth” as a new national vision for the next 60 years;
- 29 Dec. 2009, Low carbon Green Growth Bill was ratified by the National Assembly;
- 2010, Government-Industry Negotiated Agreement (NA) of Energy Consumption;
- 2010-2012, Korean Emission Trading (ET) Scheme;

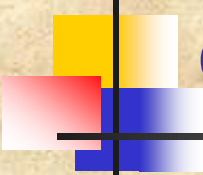


## Country Highlights to Curb Climate Change: Russia (a)

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The President and the Government adopted several legal acts that defined Russia's national climate policy:

- The Decree «About Some Measures to Increase Energy and Ecological Efficiency of the Russian Economy» (2008);
- The basic directions of the state policy in increasing energy efficiency of power industry on the basis of use of renewable energy sources for the period until 2020 (2009);
- Energy strategy by 2030 (2009);
- Federal Law on Energy Saving and Energy Efficiency Improvement" (Nov., 2009);
- The Climate Doctrine of the Russian Federation (Dec., 2009); and
- Others, including legal basis for the Kyoto Protocol's flexibility mechanisms implementation in the Russian Federation.

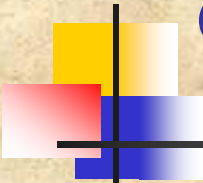


## Country Highlights to Curb Climate Change: Russia (b)

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Federal Law on Energy Saving and Energy Efficiency Improvement targets and defines actions to improve the economy's energy and ecological efficiency by 40% by 2020 that has provisions on:

- Restriction on utilizing energy wasteful goods;
- Limitation on incandescent lamp use;
- Introduction of relevant energy efficiency labels:
  - 2011 – on main home appliances;
  - 2012 – on computers and office equipments;
  - 2013 – on other goods;
- Wide application of meters/counters for energy/resources consumption (e.g. lightning, heating, water consumption, etc.);
- New energy efficiency requirements in building industry;
- Reducing energy consumption by 3% annually - from 2010, beginning from the governmental entities.



## Policy Proposals for NEA Cooperation on Climate Change (a)

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- Being a unique combination of Annex I and Non-Annex I countries, NEA has great potential for leading international cooperation on climate change:
  - Mitigation
  - Adaptation, and
  - Push forward global efforts toward moving to low-carbon, sustainable societies
- Based on our research and discussions among the various stakeholders at 2009 and 2010 NICE, we would recommend some policy proposals on these areas as follow.



## Policy Proposals for NEA Cooperation Schemes on Climate Change (b)

- Mitigation: *Collaboration of central and local governments along with participation of research communities*
    - Carry-out in-depth country reviews that:
      - Understand economic structure of each country in NEA;
      - Assess GHG mitigation potentials in each country along with their development needs;
      - Assist in preparing NAMA in the region's developing countries;
    - Create regular platforms on knowledge sharing and information exchange (e.g. Energy security & Climate cooperation);
- *Priority sectors:*
    - Energy supply (44.1%)
    - Manufacturing industries and construction (26.8%);
    - Transport (10.4%)

## Policy Proposals for NEA Cooperation Schemes on Climate Change (c)

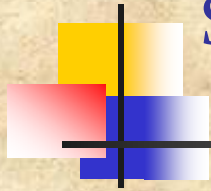
- Mitigation: *Public and Private Partnership (PPP)*
  - Continuation of the Kyoto Mechanisms:
    - Promotion of CDM/JI projects by creating a regional mechanism, where:
      - **Public sector** creates policy instruments to promote;
      - **Private sector** reviews investments, acquires technologies and exports facilities on commercial bases;
      - **Financial sector** provides the required funds and improved investment environment (e.g. project financing schemes);



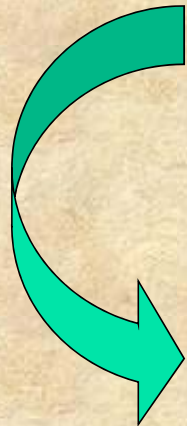
Creates emission reduction credits in the region

Facilitates development and transfer of technologies, especially those of Japan

## Policy Proposals for NEA Cooperation Schemes on Climate Change (d)



- Mitigation: *Public and Private Partnership (PPP)*
  - Establishment of a Regional Carbon Market
    - Minimizes GHG emission reductions costs;
    - Secures larger market volume;
    - Facilitates the building of regional capacity to respond to climate change;
    - Provides opportunity to develop and adapt the MRV system in the region;
    - Promotes international emission reduction projects;





## Policy Proposals for NEA Cooperation Schemes on Climate Change (e)

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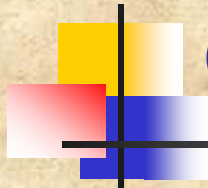
- Initiatives on Adaptation: *Collaboration of central and local governments along with participation of research communities*
  - Promote cooperation on climate monitoring and modeling;
  - Promote research on the climate change impact on key sectors of the national and regional economies;
  - Promote research on adaptive capacities of the national and regional economies to climate change;
  - Knowledge sharing and assistance in practical realization of adaptation measures;



## Policy Proposals for NEA Cooperation Schemes on Climate Change (f)

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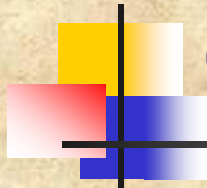
- Create Regional Climate Change Dialogue led by Japan: *Collaboration of central and local governments along with participation of research communities*
  - Promote information exchange and mutual understanding;
  - Facilitate international climate change negotiations;
  - Promote knowledge sharing on climate change issues;
- Reports/Side events to UNFCCC sessions
- ERINA will be ready to be a facilitator/organizer of such events;



## Conclusion (a)

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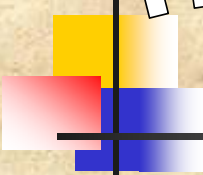
- Climate change issues has become a priority agenda on international cooperation platform;
- Being a unique combination of Annex I and Non-Annex I countries, NEA has great potential for leading international cooperation on climate change and push forward global efforts toward moving to low-carbon, sustainable societies;
- NEA countries can cooperate effectively in both GHG mitigation and adaptation to climate change;
- Energy supply, manufacturing, construction and transport sectors can be the priority areas for cooperation on GHG reductions in the region;



## Conclusion (b)

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- Japan as the region's advanced nation, can lead and facilitate policies to promote regional cooperation on climate change;
- In this regards, we propose:
  - To the central and local governments of each country along with participation of research communities:
    - Carry out in-depth country reviews;
    - Create regular platforms on knowledge sharing and information exchange;
    - Initiate collaboration on adaptation;
  - Public Private Partnership (PPP):
    - Promoting CDM/JI projects by enhancing the Kyoto mechanisms with participation of private finances;
    - Establishment of a regional carbon market for emission trading;



Thank you for your attention!

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