

Quantifying the Costs and Benefits on SLCP Action

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**Breakout Session: Bringing SLCPs and PM2.5 into Integrated Air Pollution and Climate Change Strategies in Asia: Linking Science, Models, and Action
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Benefits of air pollution policies


- Based on Asian low carbon scenario (LCS, toward 2 degree target), effectiveness of air pollution policies are assessed.
 - LLGHG mitigation
 - REF: Without LLGHG mitigation
 - LCS: Global GHG emissions in 2050 will be half to those in 1990.
 - Air pollution reduction (SO_x, NO_x, and VOC)
 - -: Without air pollution reduction
 - Air: Reducing air pollution
 - SO_x and NO_x: Emissions in 2050 will be half to those in 2005.
 - VOC: Emissions in 2050 will be reduced by 30% to those in 2005.
- By using AIM (Asia-Pacific Integrated Model), the future emissions under the above policies are assessed.

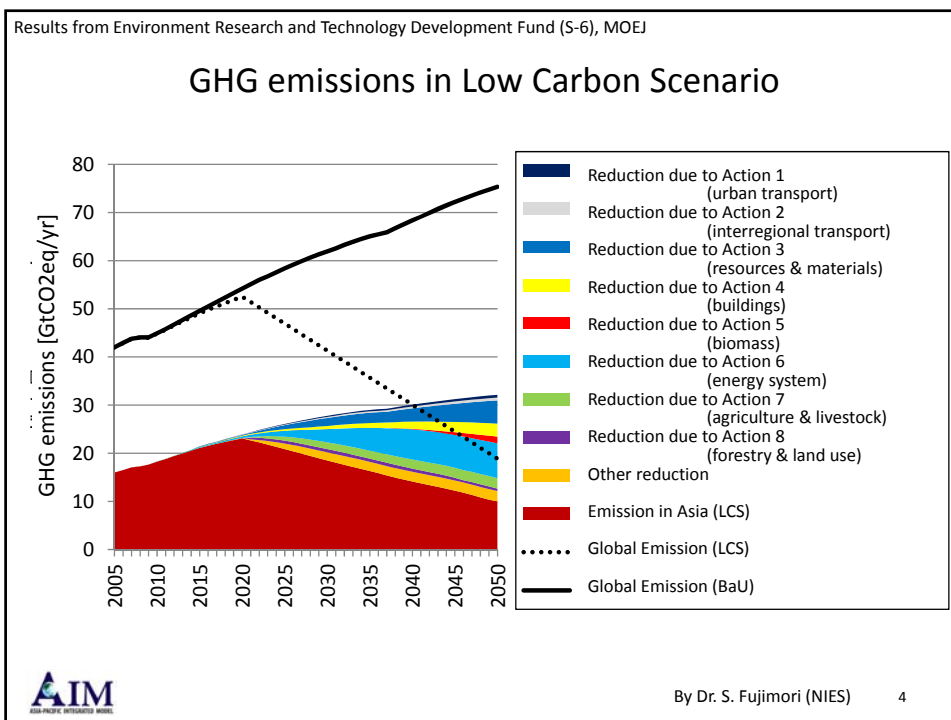


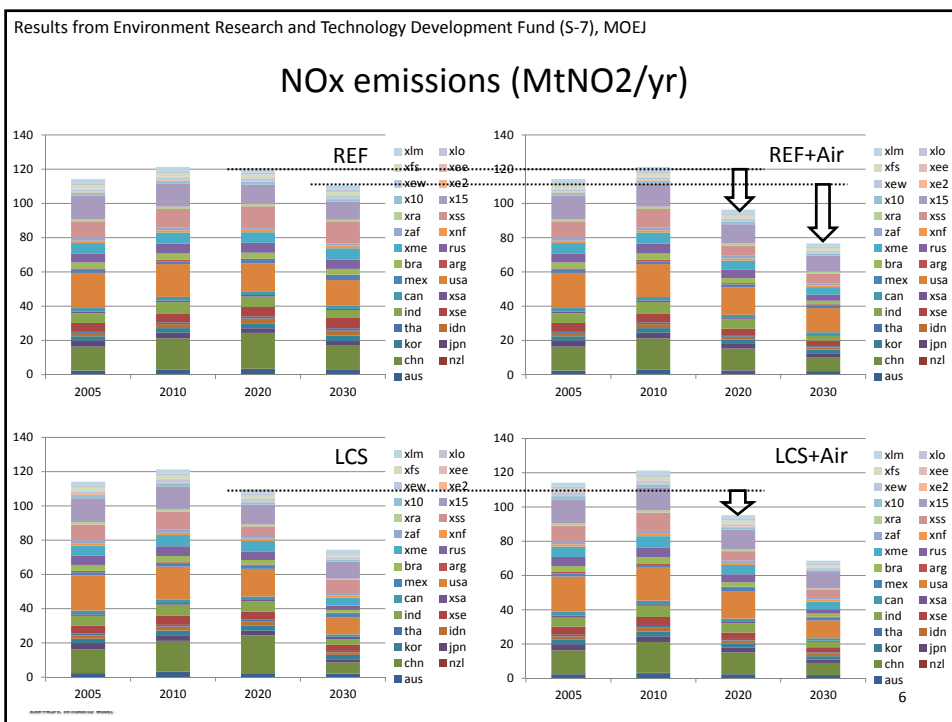
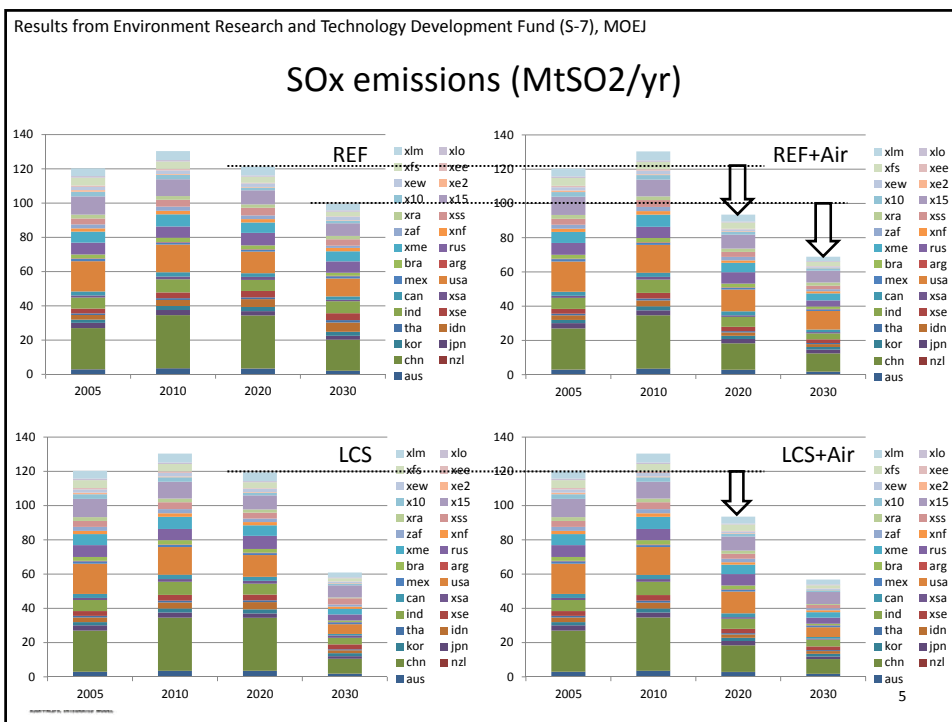
Results from Environment Research and Technology Development Fund (S-6), MOEJ

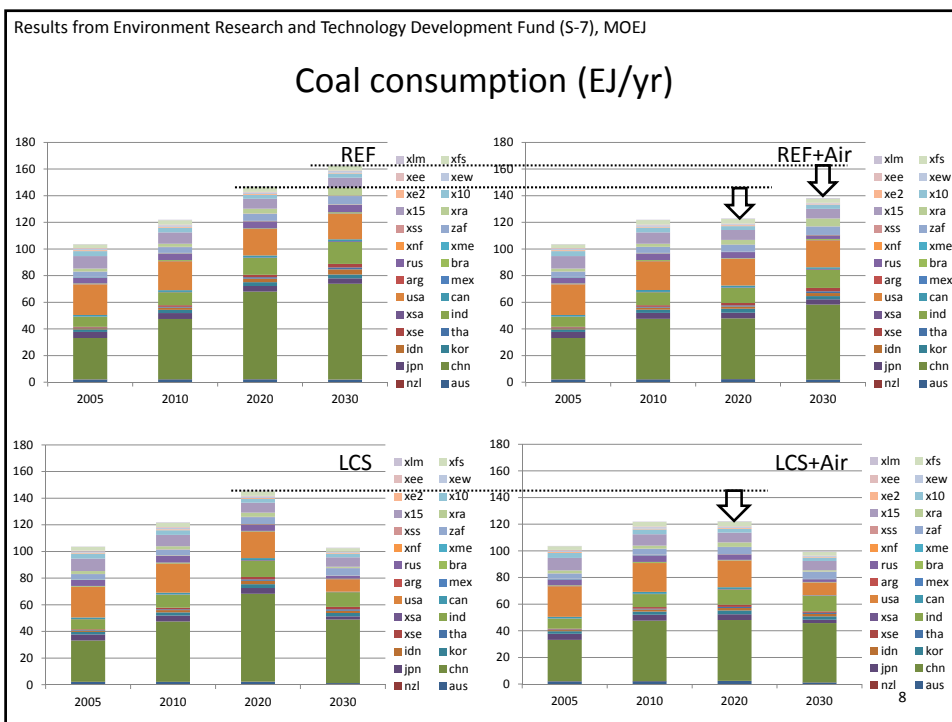
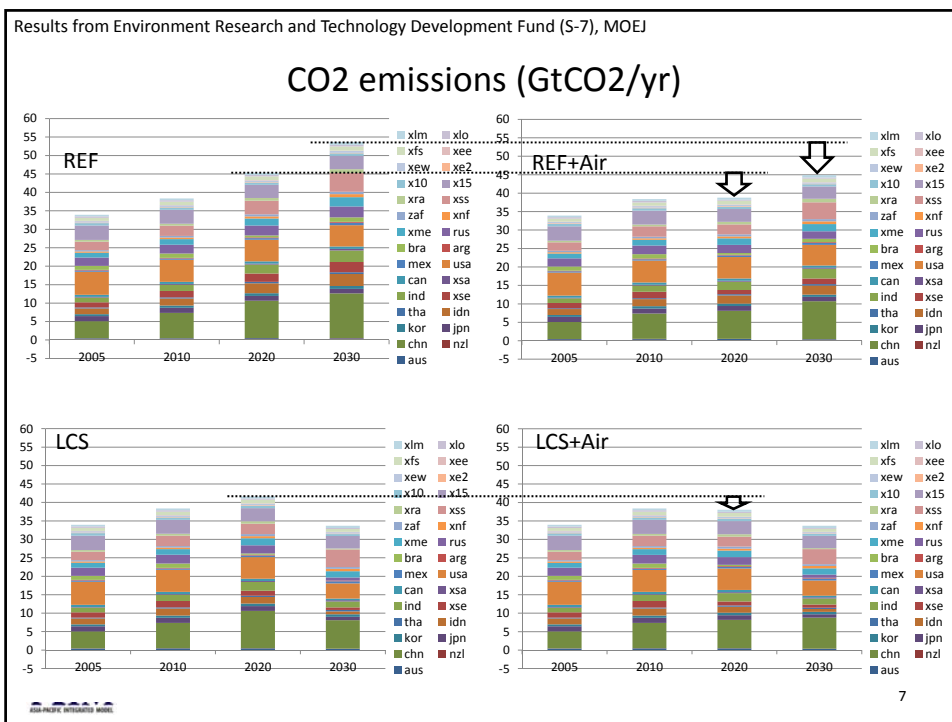
Two Scenarios toward Low Carbon in Asia

	Advanced Society Scenario	Conventional Society Scenario
Overall Features	Society that is highly motivated and actively working to achieve a transition to next-generation social systems, programs, technologies etc.	Society that is cautious about making changes to social systems, programs, technologies and so on and that is concerned about the transition costs of social change.
Economy	Average annual growth rate: 3.27%/year (global) 4.16%/year (Asia)	Average annual growth rate: 2.24%/year (global) 2.98%/year (Asia)
Population	Total population in 2050: 6.9 billion (global) and 4.6 billion (Asia)	Total population in 2050: 6.9 billion (global) and 4.6 billion (Asia)
Education	Active efforts to improve education Average number of years of schooling: 4 - 12 years (2005) → 11 - 14 years (2050)	Standard improvements to educational policy Average number of years of schooling: 4 - 12 years (2005) → 8 - 13 years (2050)
Use of Time	Diverse mix of lifestyles, but a comparatively long period of time spent on work and career advancement	Diverse mix of lifestyles, but a comparatively long period of time spent on time with family and friends
Unemployment	Full employment in 2075	Fixed at 2009 level
Government Efficiency	Improved from a comparatively early stage	Improved gradually at a slow pace
International Cooperation	Lower trade barriers and reduced foreign direct investment risk	Gradual progress in establishing cooperative relationships among countries in Asia
Technical Innovation	High rate of advancement	Gradual advancement
Transportation	Increased demand resulting from high economic growth rate	Gradual increase in demand
Land Use	Speedy and efficient land improvement	Gradual and cautious land improvement

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Climate mitigation and air pollution mitigation

- In REF (without LLGHG mitigation) scenario, both LLGHG and air pollution emissions can be reduced by introducing air pollution policies.
 - Not only installation of end-of-pipe technologies but also fuel switch, energy saving and other measures will be introduced.
- Even in LCS scenario, not only air pollution but also LLGHG emissions can be reduced in the short term. (It is assumed that in LCS all countries will follow their Copenhagen target in 2020)

Climate mitigation and air pollution mitigation link together.

→ Air pollution policies can mitigate environmental impacts.

→ What kind of direct and indirect benefits?

How much to introduce air pollution policies?

