

Panel Discussion:
Future of Sustainable Low Carbon Development
in Asia and How to Approach LCS

Mikiko Kainuma
National Institute for Environmental Studies

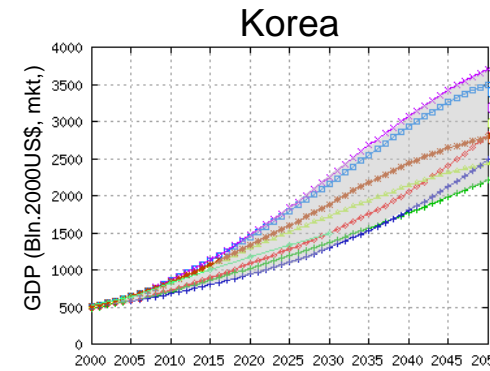
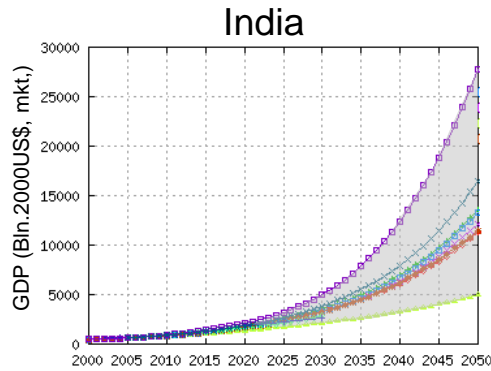
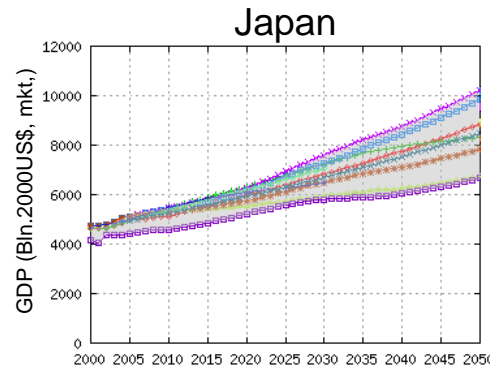
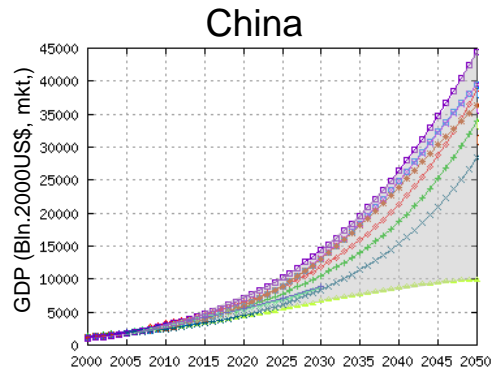
Transition towards Low Carbon Societies in Thailand and Asia
-dialogue between policy makers and researchers and
-cross-sectoral approach -

17th and 18th November 2010, Bangkok, Thailand

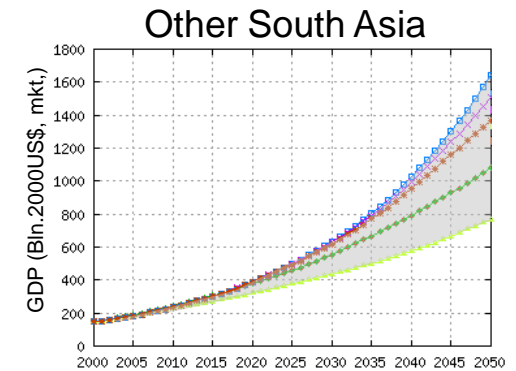
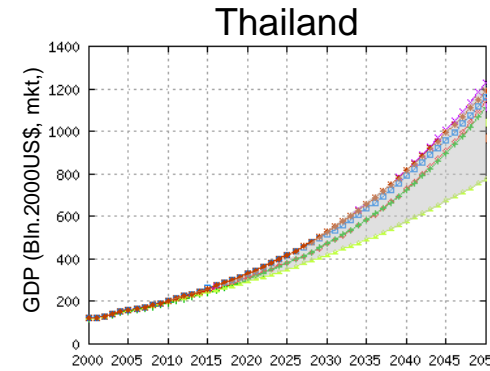
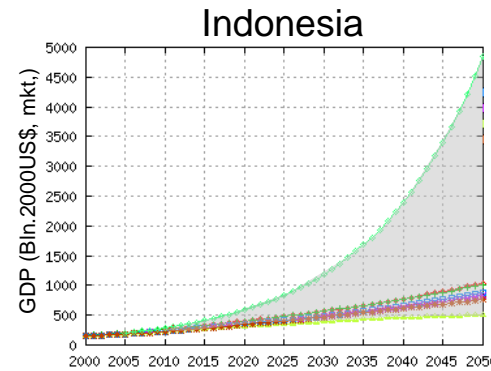
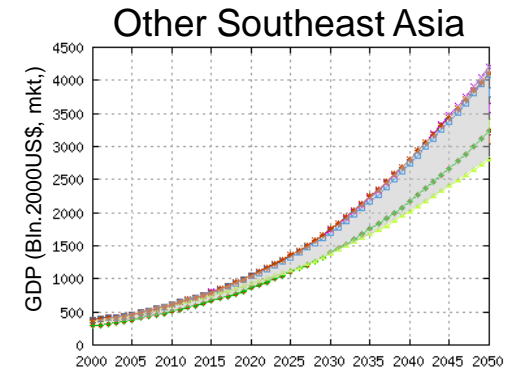
Why we need Sustainable Low Carbon Development in Asia?

- Developing in various aspects
 - Share of population & GDP will be more than 50% by 2050
 - Urbanizing rapidly
 - Increasing production and energy demands
- Significant impacts on economy & environment
- Needs to avoid lock-in high carbon infrastructures and energy systems
- Needs to improve quality of live
- Various possible pathways

Previous studies reported very wide range of future prospects on Asian region



- AIM (2009)
- AIM (2008)
- GEO4-MK (UNEP,2007)
- GEO4-PL (UNEP,2007)
- GEO4-SC (UNEP,2007)
- GEO4-ST (UNEP,2007)
- WEO2007 (IEA,2007)
- IEO2008 (EIA, 2008)
- GS (Wilson, 2003)
- PWC (Hawksworth,2006)



New challenge is required to stabilize climate

	Emission/GDP Efficiency Improvement (per annual)	Expected Emissions in 2020*		Peak year and expected emissions		
		To 1990	To 2005	Year	To 1990	To 2005
China	-9.73%	+169%	+23%	2010	+248%	+59%
Indonesia	-7.16%	+76%	+6%	2010	+101%	+22%
India	-6.49%	+78%	+16%	2040	+110%	+36%
Japan	-6.20%	-42%	-47%	2010	-6%	-14%
Korea	-9.83%	+25%	-38%	2010	+108%	+3%
Malaysia	-7.84%	+89%	-13%	2010	+161%	+20%
Philippines	-4.06%	+84%	+11%	2040	+261%	+117%
Singapore	-8.27%	+7%	-27%	2010	+43%	-3%
Viet Num	-8.70%	+280%	+68%	2020	+280%	+68%
Thailand	-6.39%	+74%	-3%	2010	+124%	+25%
Taiwan	-7.73%	+45%	-31%	2010	+138%	+13%
Other Asia	-2.36%	+21%	+31%	2040	+64%	+77%
Asia Total	-5.88%	+93%	+9%	2010	+140%	+36%

*: Expected emissions to achieve 50% reduction by 2050 based on C&C

Key factors to be considered for LCS(ex.China)

- Disparity:
 - Improved Rural problems (Low income farmer, less developed infrastructure, inefficient agriculture)
 - Increase capital mobility between west and east (Maturity of reallocation system)
 - Improved disparity in urban/rural rich-poor gap (overconcentration of wealth and income in urban area)
 - Provide educational opportunity for the poor
- Economy:
 - Shift from “extensive economy” based on mass consumption of resources
 - High presence of government owned company (Privatization?)
 - Trade conflict between west countries (Dependence on external demand)
 - Management of intellectual property rights
- Financial problem:
 - Financial reform (bad loans, risk of financial crisis)



Basic Data

Population: 1,311 mil (2006)

Nominal GDP: 2,263 bil. US\$ (2005)

Land area : 9,572,000 km²

Key factors to be considered for LCS (ex.India)

- Environment for the investment
 - Improvement of judicial system (transparency)
 - Corruption & public security issues
 - Confusion caused by decentralization
 - Improved labor system
 - Enhanced Investment promotion policy
 - Infrastructure development (transportation, water supply, electricity grid)
- Industry
 - Unstable agricultural sector (60% of the labor force)
 - Labor transfer to manufacturing sector from agricultural sector
- Finance
 - Recovery of financial intermediary function
 - Bloated inefficient public sector
- Other
 - Increased disparity among regions
 - Environmental pollution (Air, water)
 - Basic Education



Basic Data

Population: 1,119 mil (2006)

Nominal GDP: 793 bil. US\$ (2005)

Land area: 3,166,414 km²

Socio - economic state variables:

- Population & demographics
- Economic Growth
- Globalization
- Distribution/Equity
- Environmental Ethics & Values/commitment to Sustainability
- Institutions and Governance
- Technological change & access

Future trend: different pathways

	<i>Popula tion</i>	<i>Econom y</i>	<i>Globaliz ation</i>	<i>Distribu tion/Equ ity</i>	<i>Environ ment Ethics</i>	<i>Govern ance</i>	<i>Technol ogy</i>
Future Pathways 1							
Future Pathways 2							
Future Pathways 3							
FP4							
FP5							

Which pathway will lead to a sustainable low carbon society?

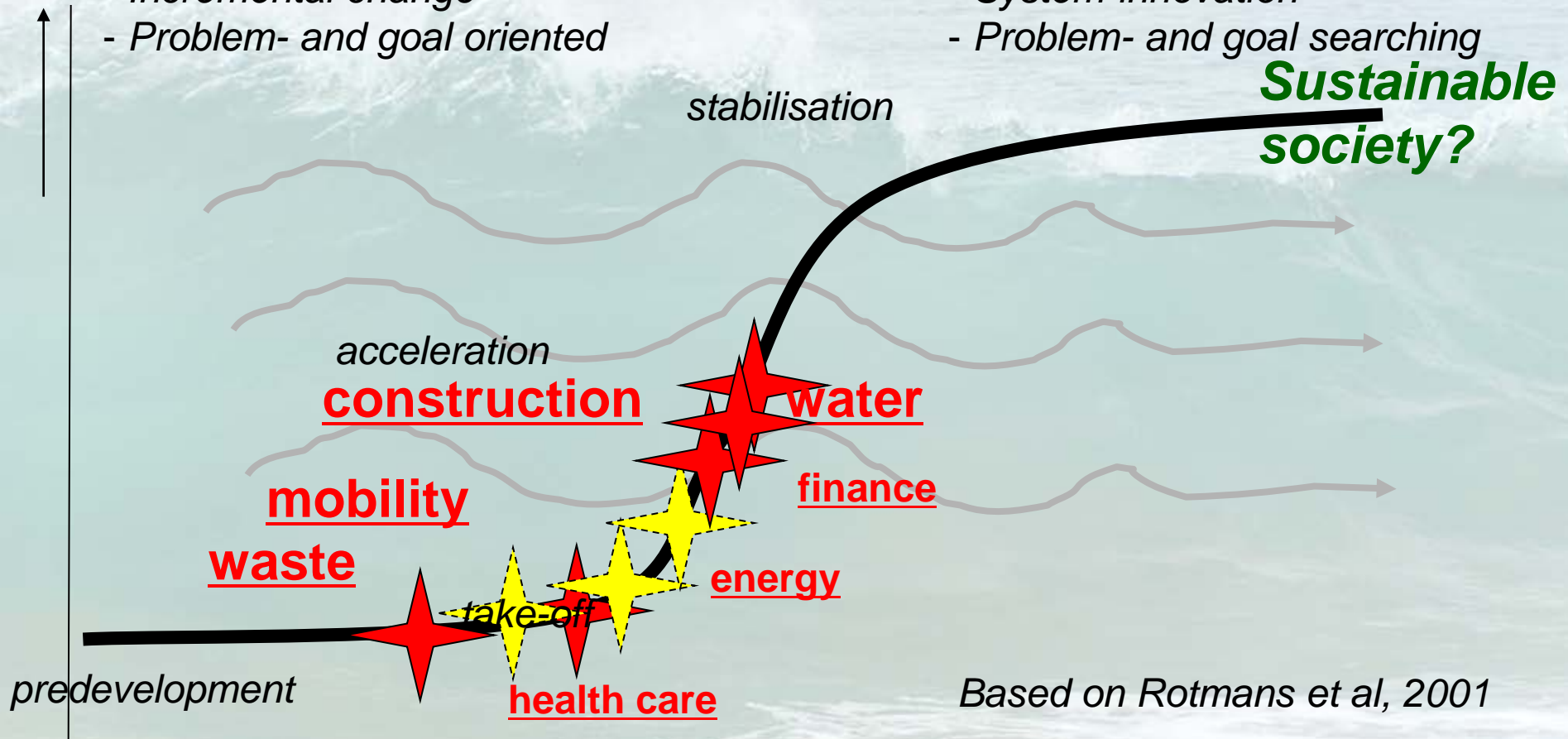
Transition phases

Regular policy arena

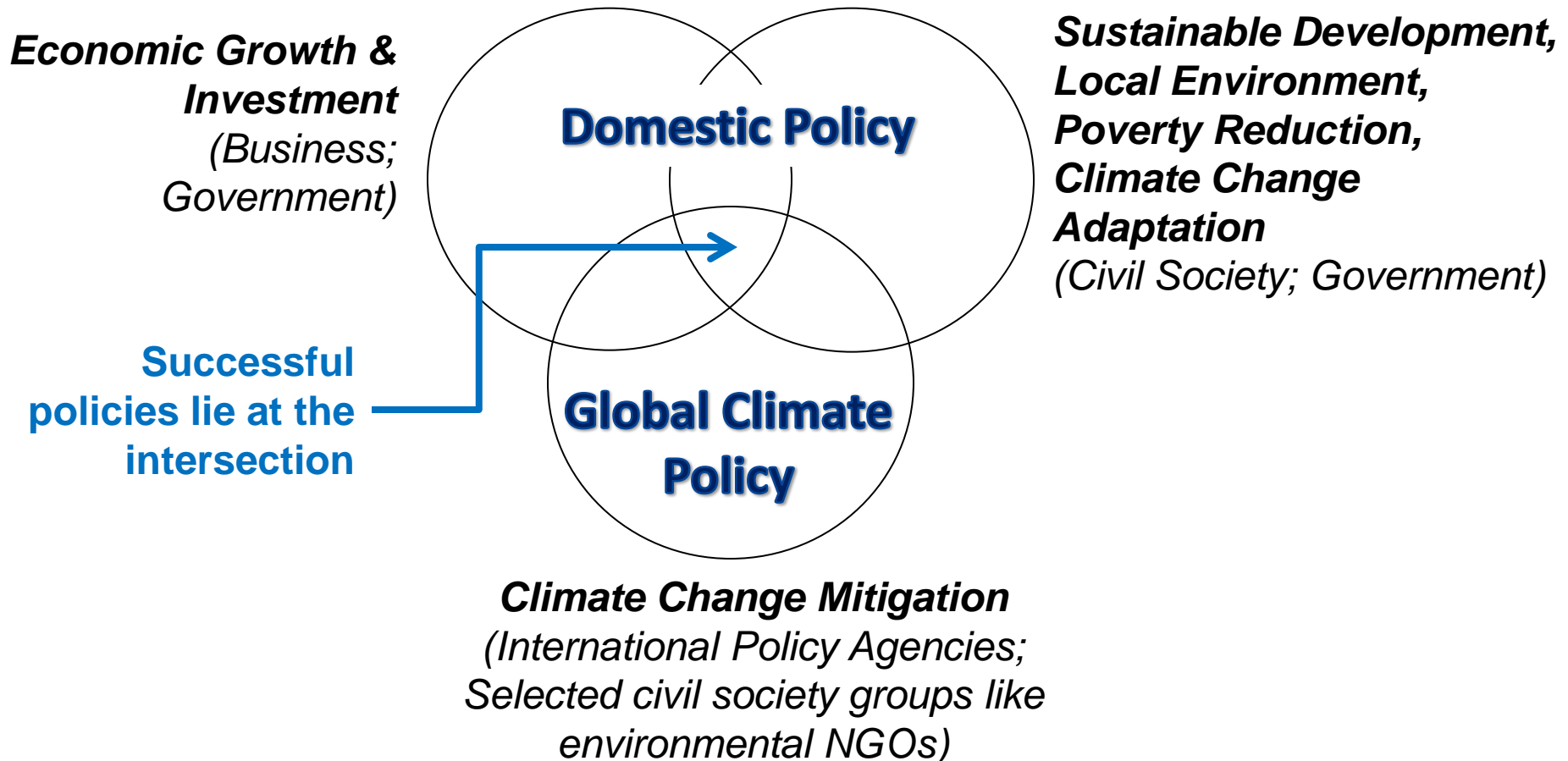
- Short term
- Incremental change
- Problem- and goal oriented

Transition arena

- Long term
- System-innovation
- Problem- and goal searching



Sets of Issues and Stakeholders: Challenge for Climate Policy



Consideration on how to approach LCS

1. Fundamental shifts in paradigms regarding economic development and life styles are required to achieve LCS. Most of these factors are exogenous to climate policy, but needs to be integrated.
2. Each city/ country/ region has its own background and characteristics. They have their own targets and ways of approach.
3. There are many common factors to be considered.
 - Global economy/ financial markets
 - Implementation of energy efficiency measures
 - Reducing the costs and accelerating the diffusion of renewable energy technologies like wind, solar and bioenergy,
 - Forest
 - Co-benefit
4. Participation from different stakeholders