The 16th AIM International Workshop

February 19-21, 2011

Climate Change Research Hall at NIES
Asia-Pacific Integrated Model (AIM)

ERI (China), IIM (India), MoE (Indonesia), Seoul U (Korea)

AIM Workshop (1995 - )

AIM 1990

1994

1997

2001

2004

2006

2007

2008

2009

2010

2011

JST/JICA SATREPS Project (FY2011-FY2015)

COP side event (2005 - )

AIM Training WS (1997 - )

Japan LCS Project (FY2004-FY2008)

Japan-UK Joint Project (FY2006-FY2007)

LCS-RNet (FY2009 - )

Asia LCS Project (FY2009-FY2015)

Malaysia

Indonesia, Thailand, Vietnam

Low Carbon Society

2050
Asian LCS scenarios study

Development of Asia LCS Scenarios
(1) Depicting narrative scenarios for LCS
(2) Quantifying future LCS visions
(3) Developing robust roadmaps

Policy Packages for Asia LCS

- Encouraging the framing for LC policy in each Asian country
- Assistance for international negotiations with scientific basis
- Networking among LCS research in Asia

High Energy Locked-in Type Development
With High Damage on Economy and Natural System

GHG emissions per capita

Developed Countries
Developing Countries
Leapfrog-development

Low Carbon World
AIM (Asia-Pacific Integrated Modeling) for Asia LCS scenarios

Energy supply & demand model

Residential sector

Commercial sector

Transportation sector

Industrial sector

Energy supply sector

Enduse Technology Model

Energy Extended Snap Shot Model (ExSS)

Stock

Building dynamic model

Activity

Household Prd. & lifestyle model

Residential energy service model

Commercial energy service model

Passenger Trns. demand model

Freight Trns. demand model

Industrial production model

Macro economy

Model

Output of model

Preference of household

Investment

Efficiency

Production

Population Labor

Population and household model

Check consistency!
Analysis of mid-term target setting in Japan by AIM model

1. **AIM/Enduse[Global]**
   - How much should we reduce GHG emissions?

2. **AIM/Enduse[Japan]**
   - Technological potential to reduce GHG emission
   - Policies to develop & deployment technologies

3. **AIM/CGE[Japan]**
   - Economic impacts by the implementation of climate change policies
   - Effects of carbon pricing
Where are we today?

“Parallel Phase”

- RCPs Selection, Extension to 2300, Downscaling
- Development of New IAM Scenarios
- Continued Development and Application of IAM Scenarios
- Integration of CMC Ensembles with IAM NEW Scenarios
- Story Lines
- IAV Research Based on AR4 Climate and SRES IAM Scenarios
- IAV research based on new CM and IAM scenarios

Timeline:
- Fall 2007: Preparatory Phase
- April 2009: Parallel Phase
- Winter 2010: Integration Phase
- Spring 2013: Publication Lag

IPCC New Scenario Development

CMC

IAV

IAM
Modeling and Policy Analysis to tackle with climate change

- Technology Model
- Copenhagen Country pledges
- Economic Model
- GHG450ppm Stabilization path
- Less than 2°C increase

GHG path

- Kyoto Target
- GHGemissions are reduced by half

Emission path and socio-economic condition to stabilize the climate change below 2°C target?

Visions of LCS?

Socio-economic condition where GHG emissions are reduced by half

Target of each country?

Dynamic optimization model

First Commitment

- 2008～2012
- 2020
- 2050
- 2100～
Major themes

• New scenario development with integration of adaptation, mitigation, and development
• Roadmap to achieve a low carbon society
• Better understanding of transition to a low carbon society
• More comprehensive treatment of regional aspects of climate change
• Climate change in the context of other dimensions (e.g. poverty, energy security, food security, water security, biodiversity loss, ...)

AIM
ASIA-PACIFIC INTEGRATED MODEL
# The 16th AIM International Workshop

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