



AIM activities and the objective of this workshop

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Main AIM Activities

Research topics

- LCS scenario development
 - Country/region/city scenarios
 - Roadmaps towards LCS
 - Co-benefits
 - Storylines
- Mid-term target in Japan
- Mid- and Long-term roadmaps towards LCS
- Impact & Adaptation scenarios
- New scenarios development for IPCC AR5
 - RCP6.0 W/m², 2.6W/m² scenarios
 - Storylines
 - Integrated scenarios

Model development

- Narrative Storylines
- Backcasting model
- ExSS
- AIM/Impact[Policy]
- AIM/CGE[Country, Global]
- AIM/Enduse[Country, Global]
- MAC
- Air pollution model
- Impact model
- Element models

International Collaboration

- AIM Network (Asia Low Carbon Project, Global Modeling, Enduse Modeling,...)
- IAMC (Integrated Assessment Modeling Consortium) for future scenarios
- EMF (Energy Modeling Forum)
- AME (Asia Modeling Exercise)
- EU IAM Model Comparison Project
- LCS-RNet

Climate Change Research Program

Core Research Project 4

Developing a Vision of a Low-Carbon Society and Identifying Countermeasures through Integrated Assessment

Research targets

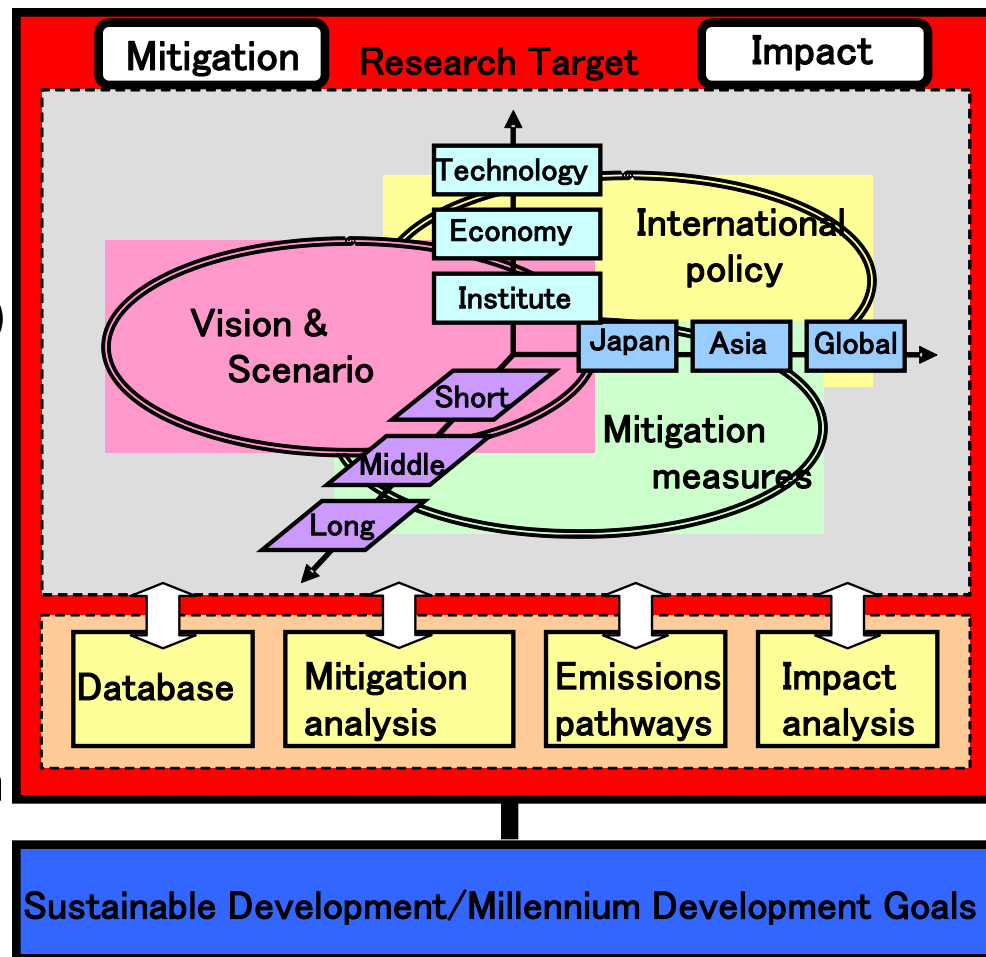
Spatial (Japan, Asia, Global)

Temporal (short- to long-term)

Social (technology, economy, institute)

Research fields

- ① Vision & scenario to achieve a low-carbon society by 2050
- ② International policy for climate change
- ③ Quantitative evaluation of mitigation policies and measures



Low-Carbon Asia research project

FY2009-2013, Global Environmental Research Program, MOEJ

Sustainable development through LCS

Future trends on socio-economic conditions, energy, resources, regional diversity, culture, lifestyle, etc.

Institutional design for int'l cooperation

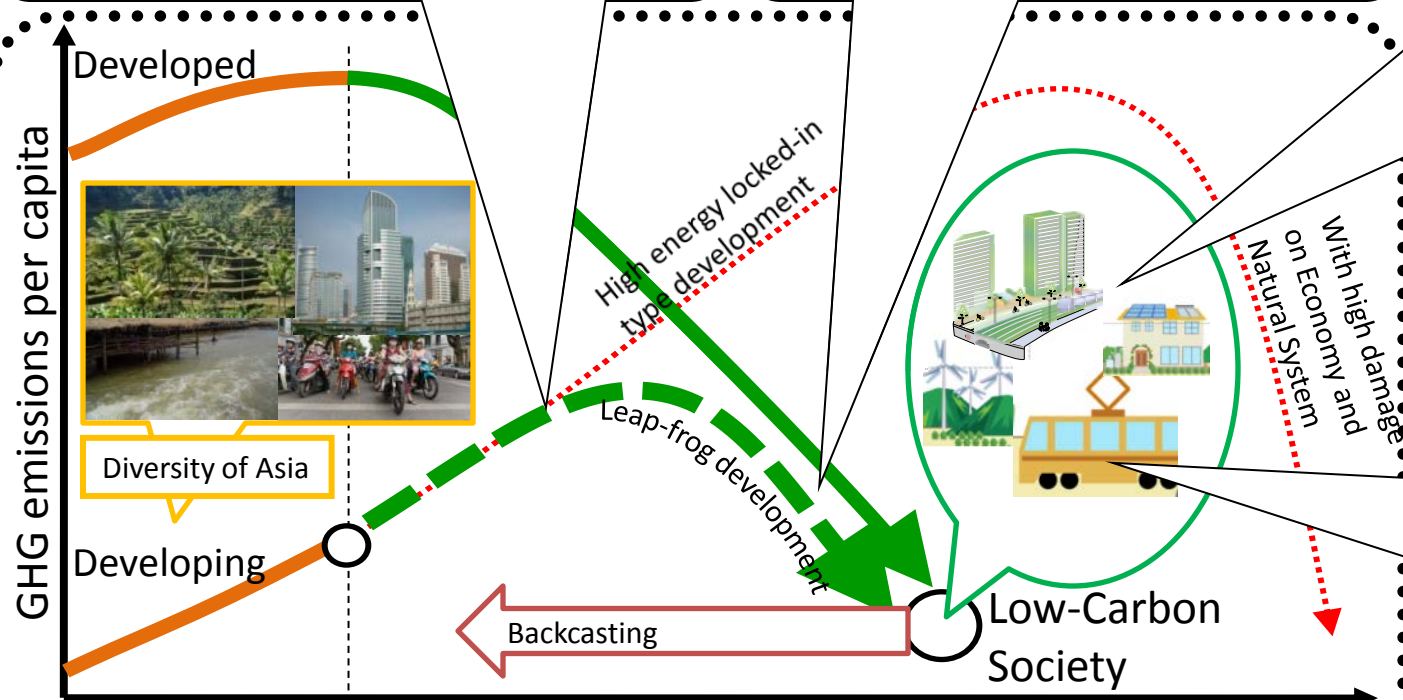
Institutional design for international cooperation, regional regime, etc.

Sustainable resource management

- Constructing material accounts
- Low-Carbonization through improvement resource productivity and material recycle

LC Transportation

- Low-Carbon City with LC transport system
- Grand design for future transport system



Development of Asia LCS Scenarios

- (1) Depicting narrative scenarios for LCS
- (2) Quantifying future LCS visions
- (3) Developing robust roadmaps by backcasting

- Encouraging in framing for LC policy in each Asian countries
- Assistance for international negotiations with scientific basis
- Approaches for int'l LCS activity framework
- Networking among LCS research in Asia

Policy Packages for Asia LCS

Analysis for Mid-term Target for Climate Stabilization

Quantitative analysis in 2020 with AIM Model

1. Global Technology AIM/Enduse[Global]

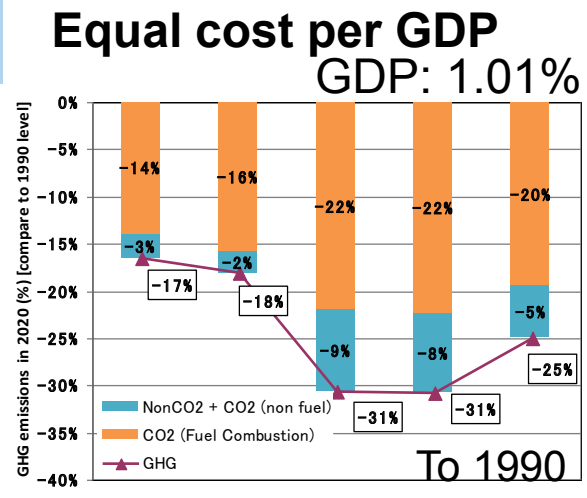
- equitable emission allocation to achieve 25% reductions in Annex I

2. Japan Technology AIM/Enduse[Japan]

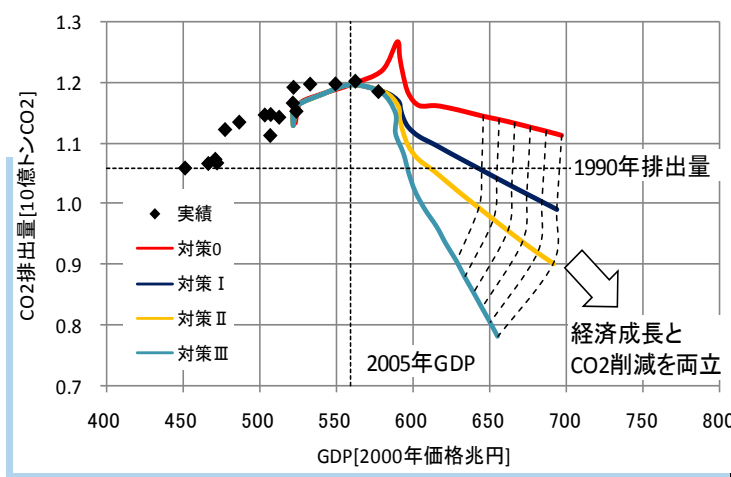
- How much emissions can be reduced by technology?
- What policies are required?

3. Japan Economy AIM/CGE[Japan]

- Economic impact of emissions mitigation?
- How much the carbon price? And its effects?

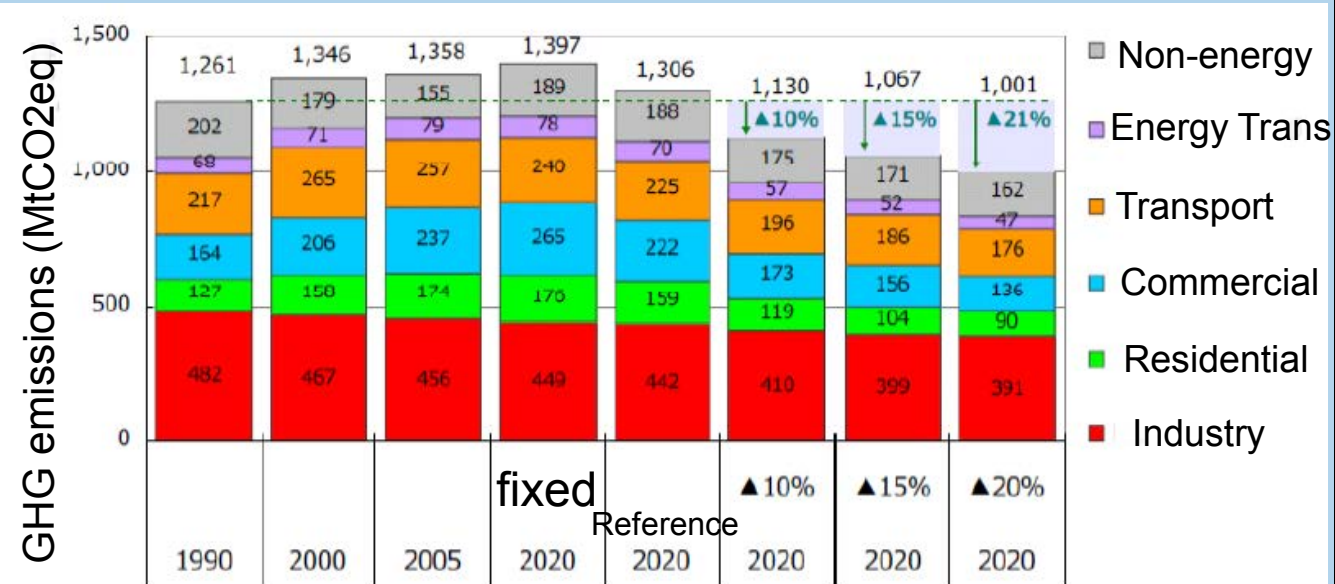


Japan USA EU25 Russia Annex I
 ↑ Global Technology model



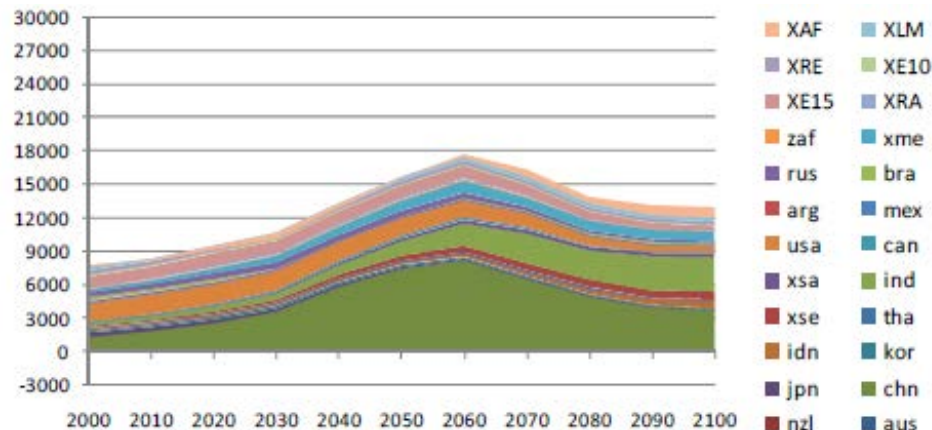
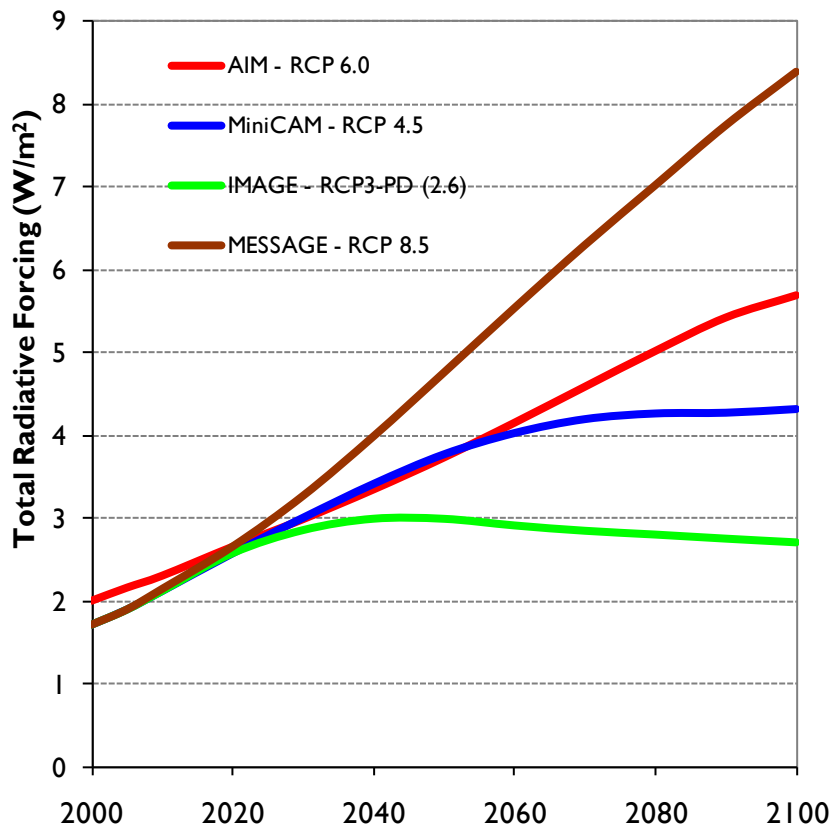
↑ Japan Economic Model

↓ Japan Technology Model

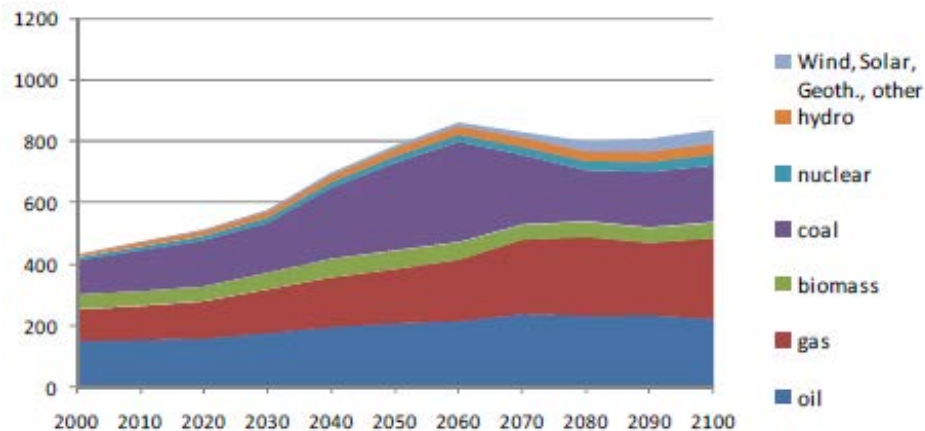


Four RCPs for IPCC New Scenarios

AIM Results for 6.0W/m²



CO₂ emissions (MtC/yr)



Primary Energy Supply (EJ/yr)

Discussion points

- 1) What kind of Asia LCS scenarios shall we develop?
- 2) What kind of strategies should be incorporated in Asia LCS scenarios to support climate policy development in Asian countries?
- 3) What modeling, collaboration and capacity building activities should AIM pursue to develop Asia LCS scenarios and to support climate policies?

1) What kind of Asia LCS scenarios shall we develop?

We are now working on developing LCS scenarios. We have developed Japanese scenarios (country) and local government's scenarios such as Kyoto scenario and Shiga scenario. Several scenarios in Asia have also been developed through AIM Network. Our approach is to envision the society in the target year, to quantify it and to make roadmaps towards it by proposing action plans.

We focus on energy saving technologies, renewable energy, decarbonization of industry, low carbon lifestyle, city planning and so on.

Is this approach appropriate or are there other factors we should focus on?

2) What kind of strategies should be incorporated in Asia LCS scenarios to support climate policy development in Asian countries?

We are now working with the Japanese government and providing active policy analysis. Many colleagues from other countries are also working with national and local governments.

LCS scenarios should be used in policy making processes. To realize this, we need to work with policy makers. What strategy will be effective to engage and convince policy makers to work on LCS.

We need to provide good scenarios and roadmaps toward LCS to be used in policy making processes. What others?

3) What modeling, collaboration and capacity building activities should AIM pursue to develop Asia LCS scenarios and to support climate policies?

AIM team is now developing various kinds of models as part of LCS project. Are there any other suggestions for model building for LCS? We need to do something to deploy these AIM models widely? What is the effective way to work together to develop models? What strategies will be effective to disseminate AIM models and their use among both researcher and policy communities, at national as well as city/local levels?

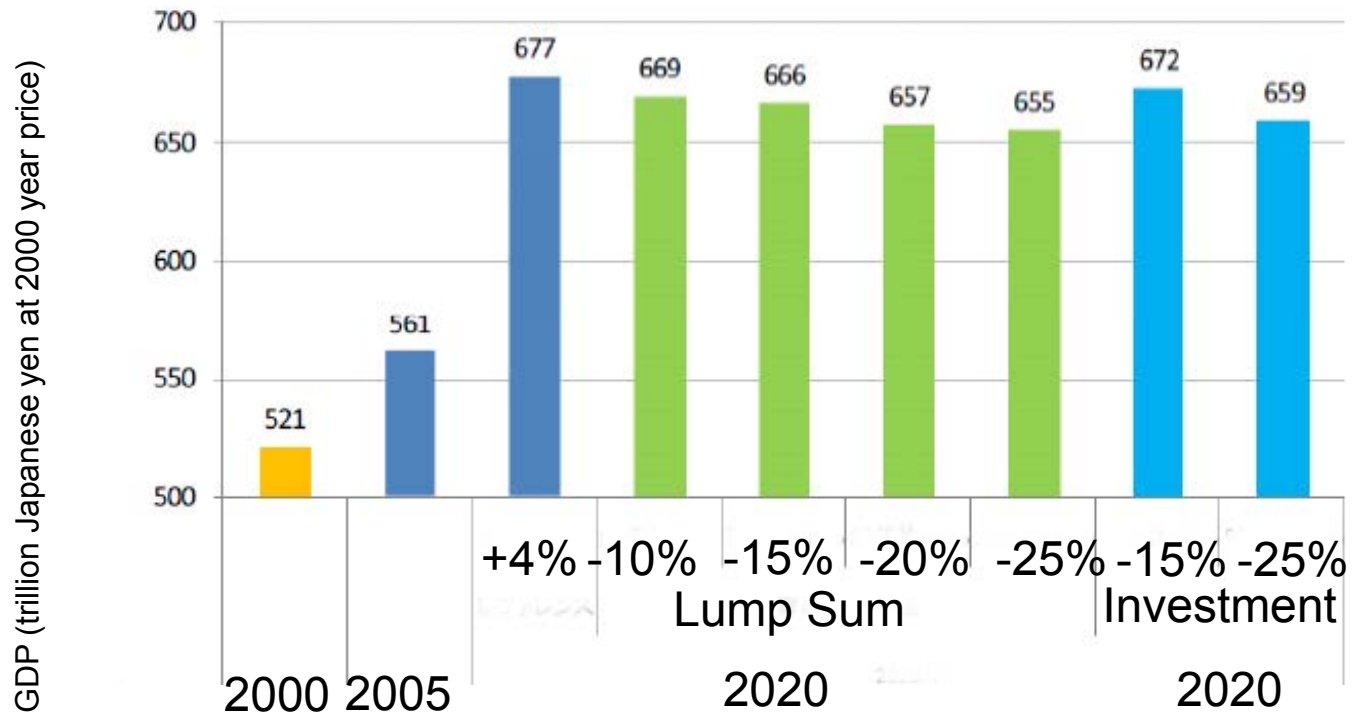
3) What modeling, collaboration and capacity building activities should AIM pursue to develop Asia LCS scenarios and to support climate policies?

AIM team also develops models for projecting global GHG emissions, estimating global passes towards climate stabilization, estimating impacts under such global passes. What target should we pursue to stabilize climate? What kinds of reduction options can we expect? What kinds of policies are appropriate to realize climate stabilization? Model can give answers to such questions? What we should do for that?

Discussion points

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Additional slide



Economic Impact of GHG mitigation