Low-carbon, Sustainable Development in Asia

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Sustainable Low-Carbon Development in Indonesia and Asia: Dialogues between Policymakers and Scientists on Green Growth

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Japan Low Carbon Society Scenarios toward 2050

Japan Low Carbon Society 2050

Study environmental options toward low carbon society in Japan

Advisory board : advice to project

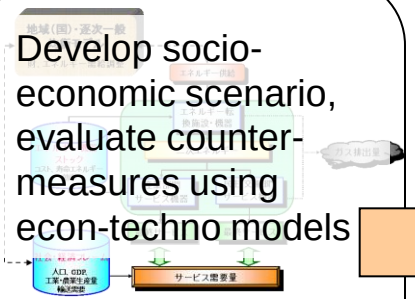
Techno-Socio Innovation Study

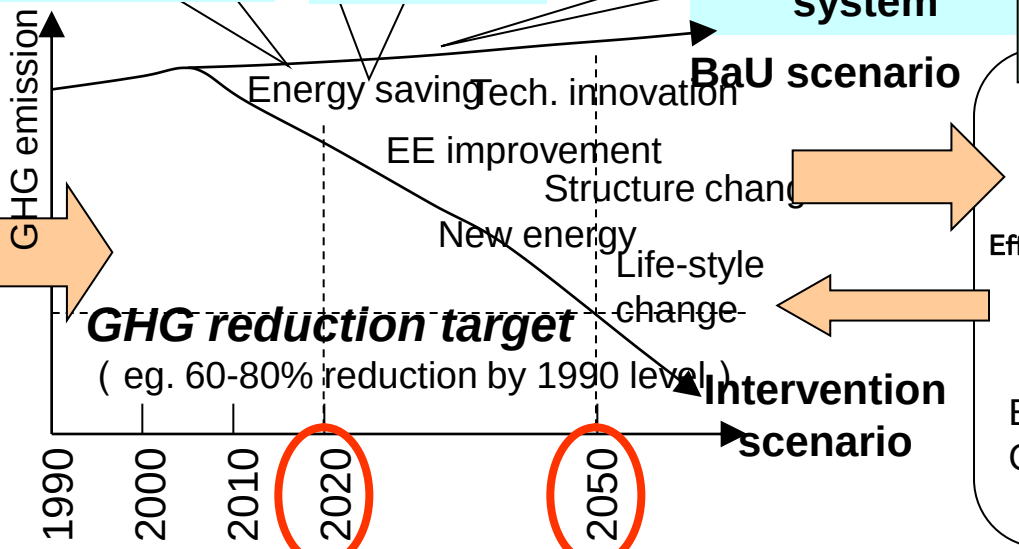
Green buildings Self-sustained city Decentralized services	Eco awareness Effective communication Dematerialization	Next generation vehicles Efficient transportation system Advanced logistics

Urban structure | **IT-society** | **Transportation system**

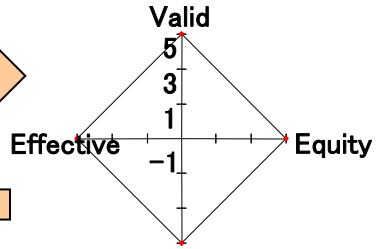
Long-term Scenario Development Study

Develop socio-economic scenario, evaluate counter-measures using econ-techno models





Reduction Target study



Evaluate feasibility of GHG reduction target

60 Researchers

Propose the direction of long-term global warming policy

[FY2004-2008, Global Environmental Research Program, MOEJ]

http://2050.nies.go.jp

Low-Carbon Asia research project
FY2009-2013, Global Environmental Research Program, MOEJ

Sustainable development through LCS

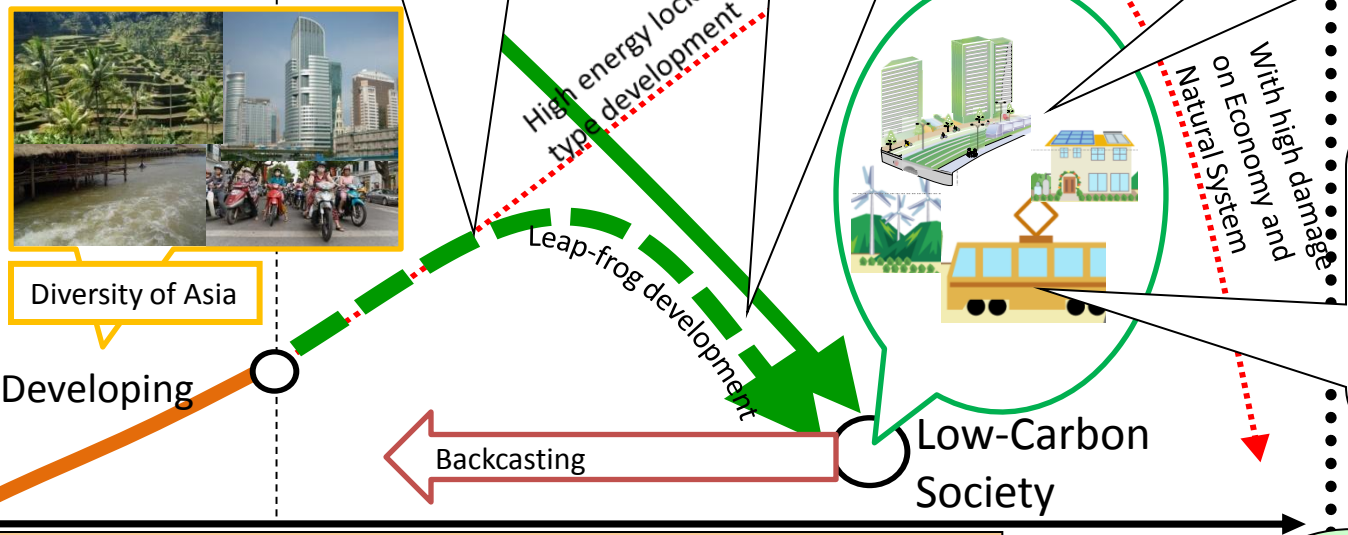
Future trends on socio-economic conditions, energy, resources, regional diversity, culture, lifestyle, etc.

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

What are the Asian low carbon societies?

By the middle of this century (2050), societies which satisfy the followings;

- Accepting drastically transfiguring Asian society and economy,
- conforming each country's reduction target that consists with the global low carbon target,
- under the global, national and regional constraints on fossil fuel and renewal energy resources, and land resource,
- developing various LCS policies based on each country characteristic,
- also utilizing effectively the co-benefits of LCS policies and neighboring policies.

Five domestic factors and the global trade environment that decide the realization of Asian low carbon societies

1) Energy production, consumption facilities, equipment, and technology: Energy supply facilities, energy-saving technology, and their production system
2) Social infrastructure: Traffic infrastructure/system for LCS
3) Human capital: Human resource for developing, managing, and maintaining low carbon societies. Proxy index by number of technocrats, engineers and people's potential to accept related innovation.
4) Institution: Creation and existence of efficient market systems for energy and technology. Decentralized governance and privatization of related organization, international and domestic funding system, carbon-emission tax, emissions trading, etc.
5) Social capital on reliability, custom, and norm: Social environmental efficiency of individual level, community level and commercial markets. Energy efficient lifestyle and low material type lifestyle.

Why we need scenario analysis for Asia

In order to develop the low carbon world, it is important to develop middle-long term scenarios toward low carbon Asia and to assess various policy options in this area.

Huge economic activity: Around 30% of global primary energy is consumed in Asia	Win-win strategy: We need strategies to solve both climate change and other issues in Asia.
Developing countries: Future GHG emissions will drastically increase.	Issues to overcome: Biomass is related to energy security and food security.
Other issues such as MDGs: Each country has many important issues to be solved – poverty, pollution...	Diverse Asia: Each country is different – natural resource, culture, industry, lifestyle....
Globalization: Activities in Asia are liked to the global activities.	

Features of Asia

Steps of Low-Carbon Society Scenario Studies in Asian countries

- Clarification of targets to achieve low carbon society and to solve other issues simultaneously in each country/city
- Sharing cross-cutting issues among countries and considering strategies toward low carbon society
- Quantitative research applying the integrated assessment models to each country/city
- Developing the consistent low carbon scenarios and designing the road map to achieve the low carbon society for each country/city

What are other important problems related with LCS issue?

1) Various problems related to MDG, such as poverty eradication, education, health improvement, and diffusion of water supply and sanitary services.
2) Quantification of ancillary benefits caused by LCS policies, such as acceleration of electrification rate and regional atmospheric environment.