

Overview of AIM

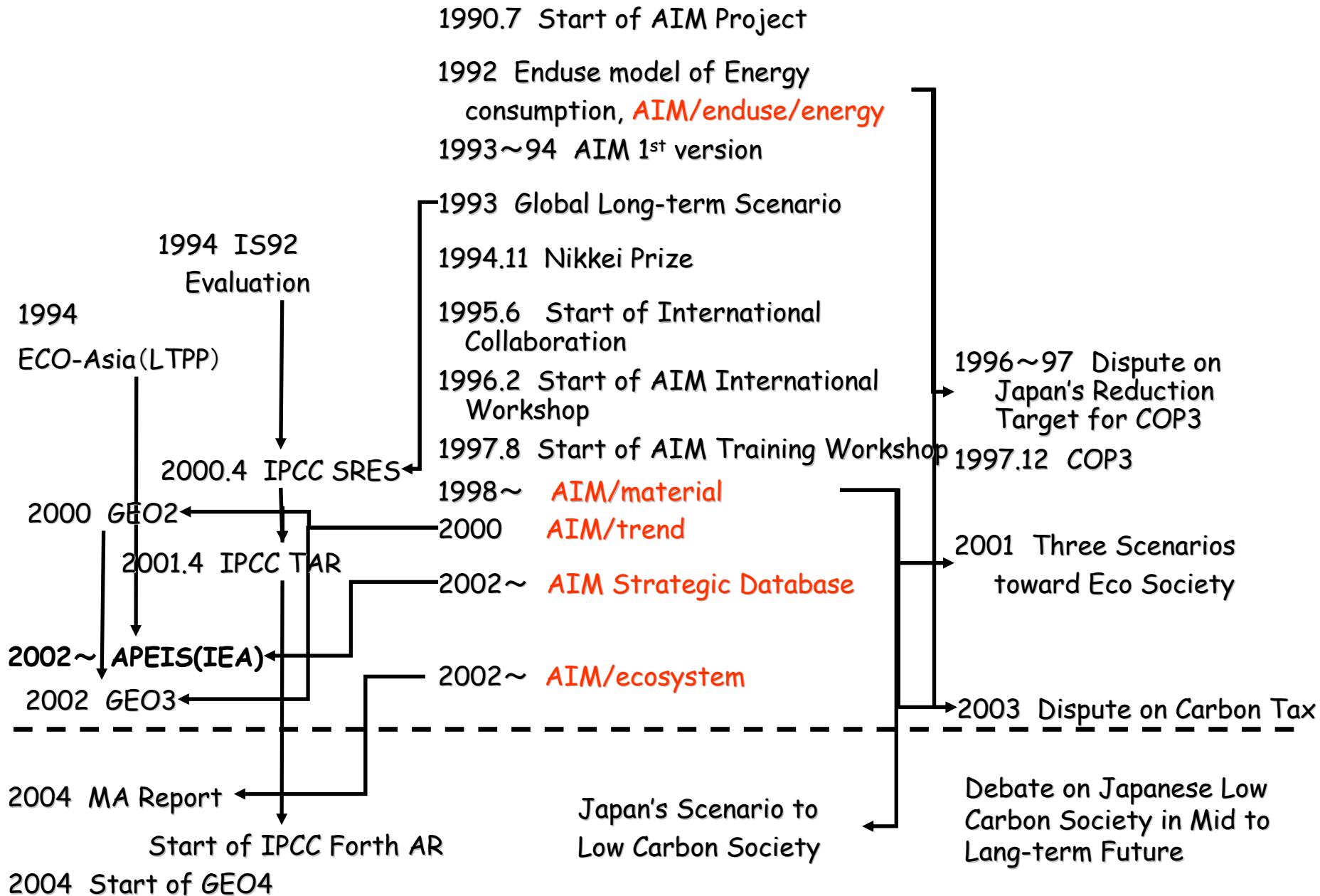
APEIS Training Workshop

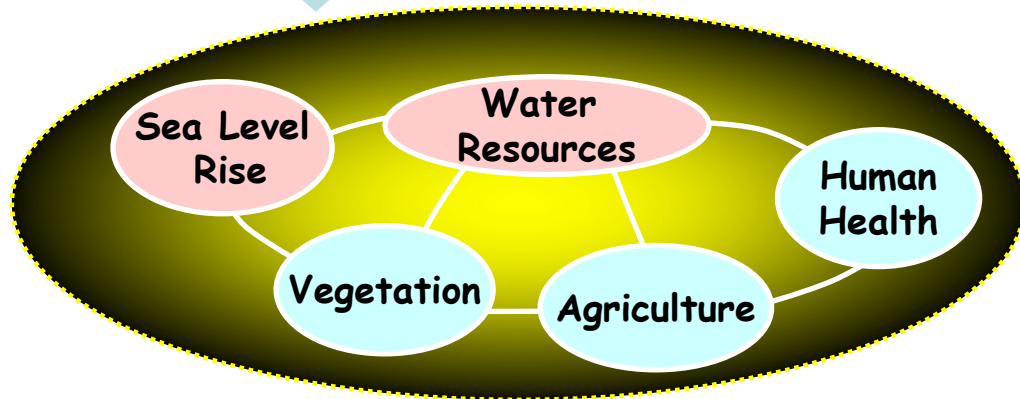
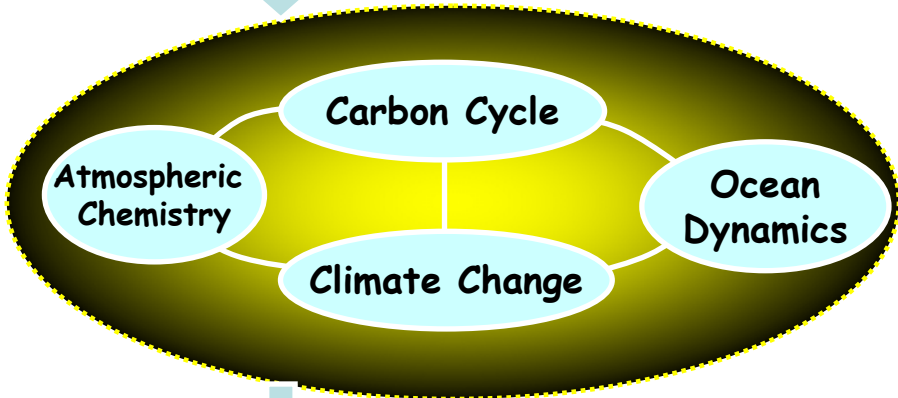
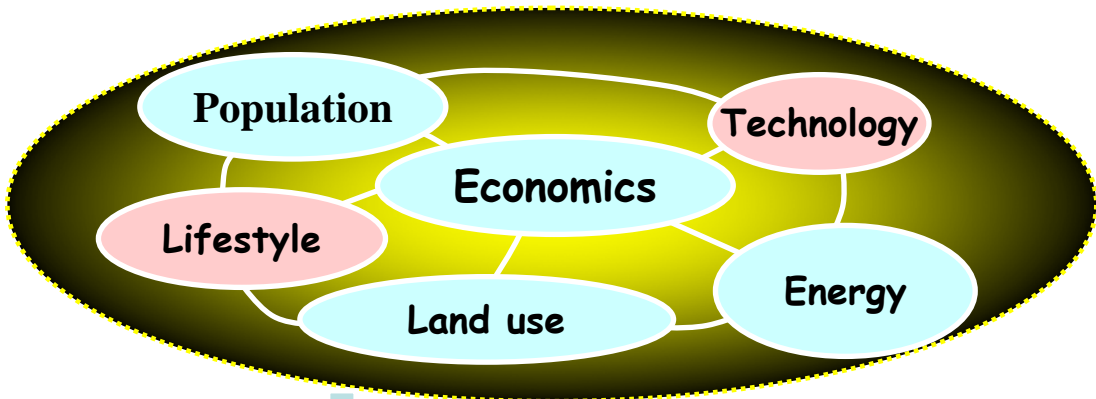
November 25, 2004

NIES, Tsukuba

Mikiko Kainuma

AIM, Past and Future





IPCC
UNEP
OECD
ECO-Asia
APEIS
IEA
UNU/IAS
APN
EMF
WWF
Governments
Companies

Japan team
China Team
India Team
Korea Team
Thailand Team
Malaysia Team

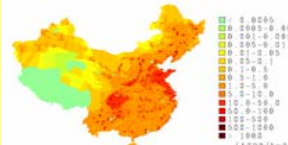
Integrated Environmental Assessments (IEA)

AIM Model Development for APEIS

Strategic database

AIM/Energy/Technology/Country

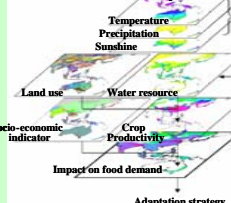
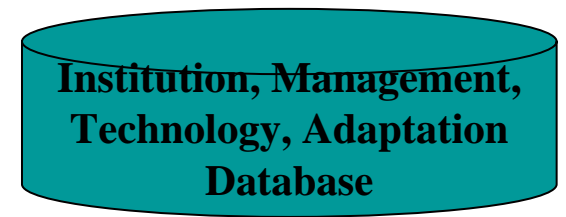
A bottom-up technology selection model of energy use and emissions at country and local level



Emission Intensity of SO₂ in China

AIM/Ecosystem/Water/Impact

A set of ecosystem models, including a vegetation dynamics model, a water resource model, an agricultural productivity model and a health impact model

AIM/Bottom-up

A bottom-up technology & land use model for Asia-Pacific region

AIM Family

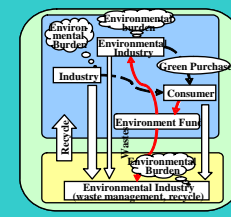
AIM/Top-down

A general-equilibrium-type world economic model

Scenario Assessment

AIM/Material

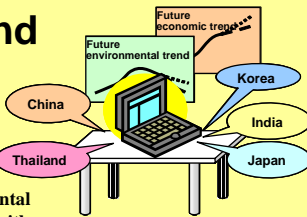
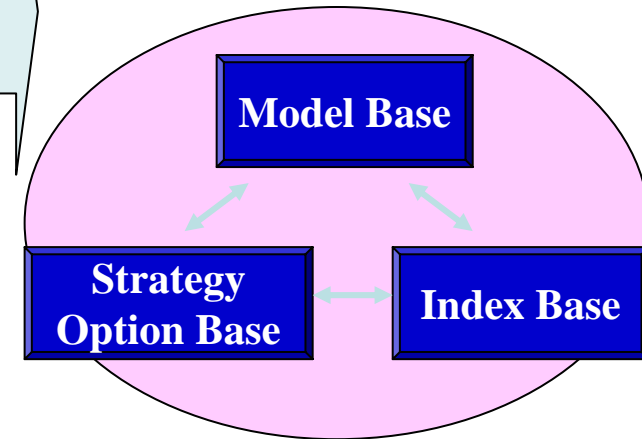
An environment-economy interacted model with material balance and recycling process modules



Technology assessment Technology needs Research on new technologies

AIM/Trend

Developed as a communication platform in order to construct Asia-pacific regional environmental outlook supported with multi-regional environment-economic CGE model

Problems, IEA tools, Policy Instruments

Local

Global

Short-term

Local Air pollution, Water pollution, Solid wastes
AIM/Energy, Water, Material
Recycling, Ecosystem conservation

Transboundary Air pollution, Oil-spill
AIM/Energy, Water, Top-down
CDM, Technology transfer
Trade (Agriculture, ..)

Long-term

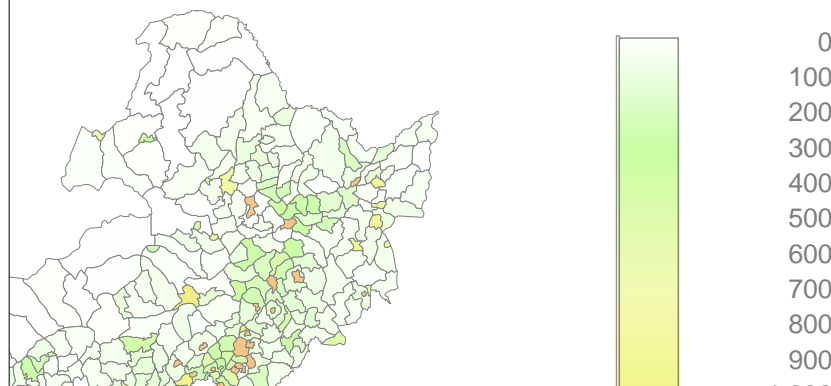
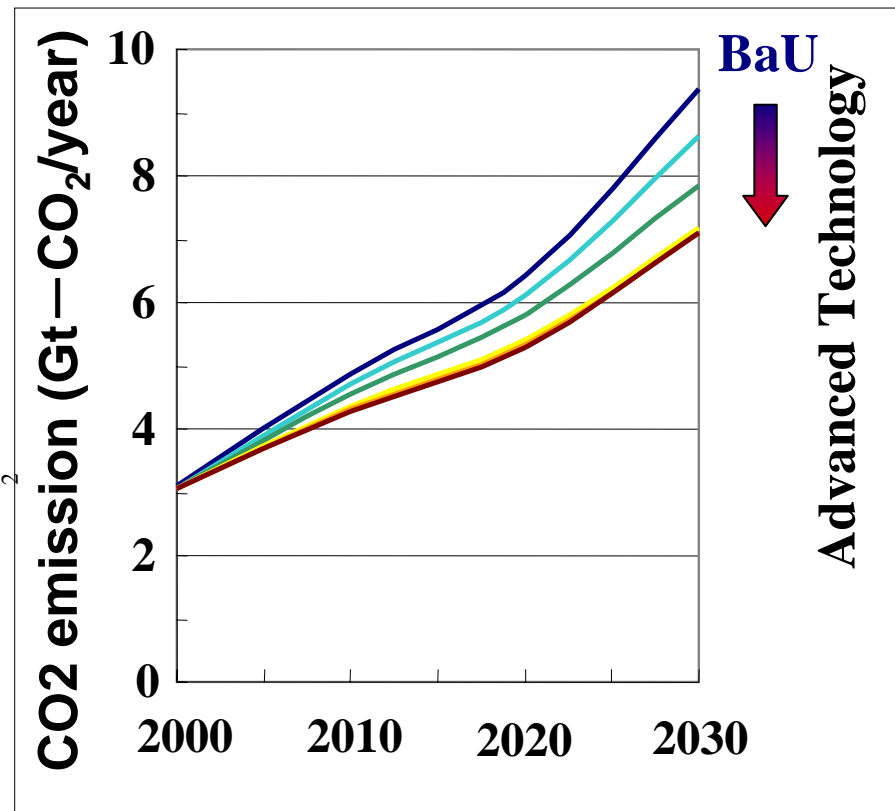
Water stress, Deforestation
AIM/Ecosystem
Environmental industry
Insurance

Climate change, Ozone
AIM/Energy, Top-down, SDB
Carbon-trading
Adaptation fund

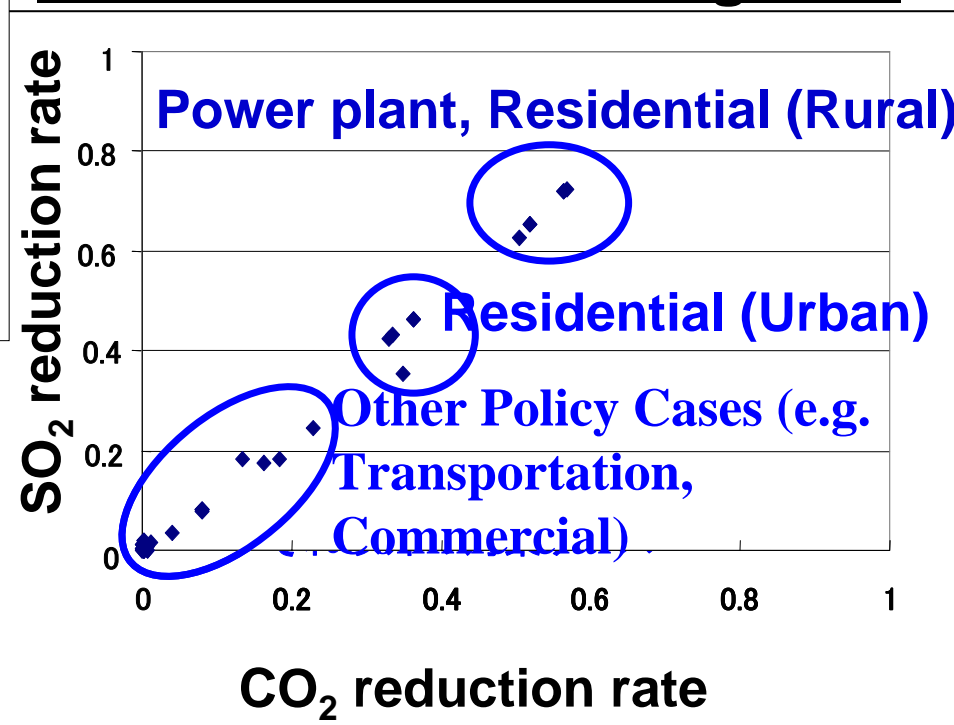
(Examples)

CO2 Emissions Projection in China

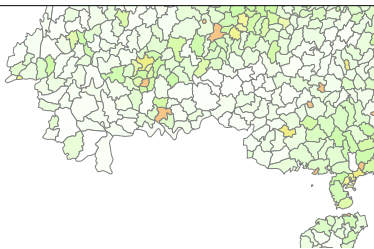
CO2 Emissions



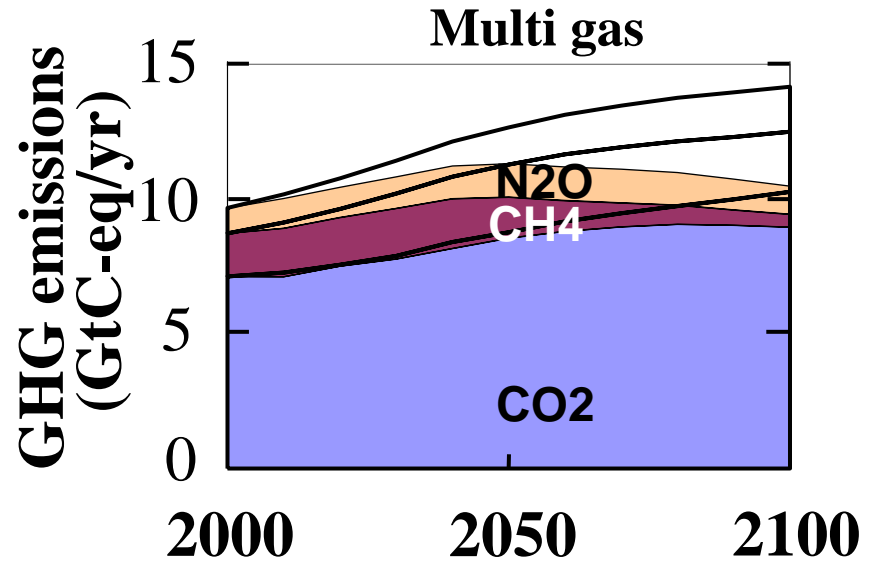
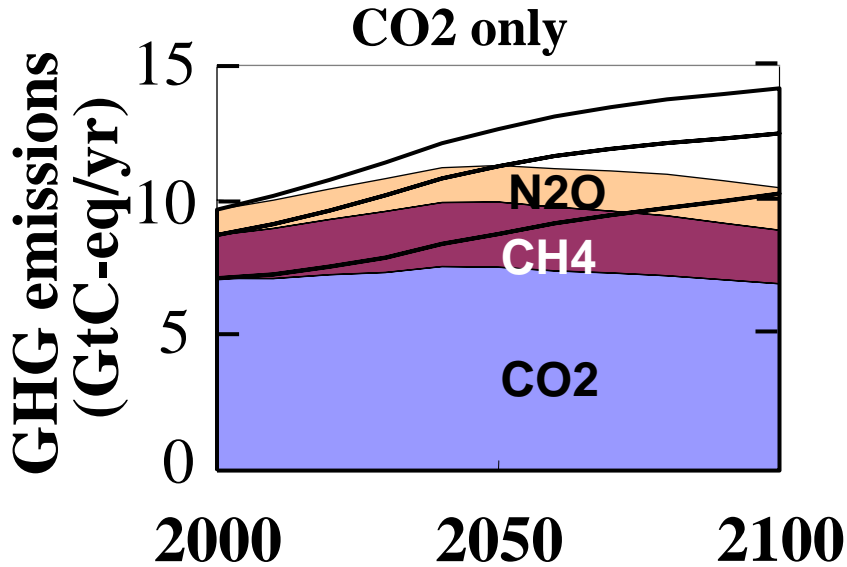
Co-benefit of CO2 Mitigation



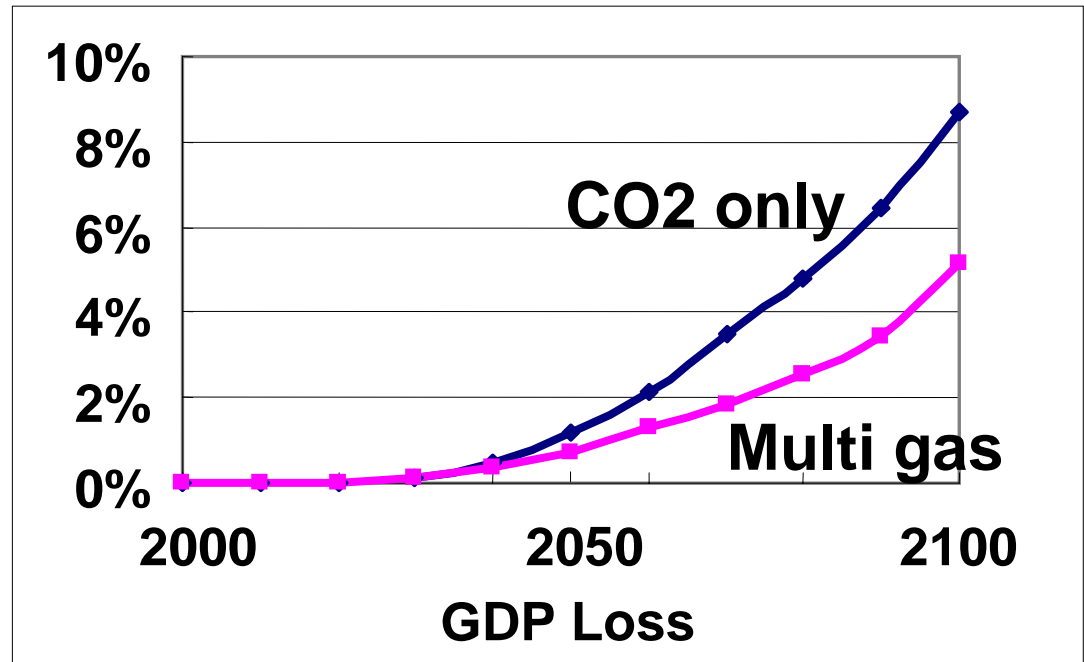
CO2 emission intensity in 2010



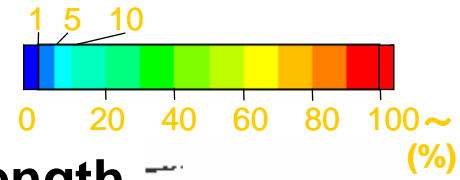
Multi-Gas Basket Approach



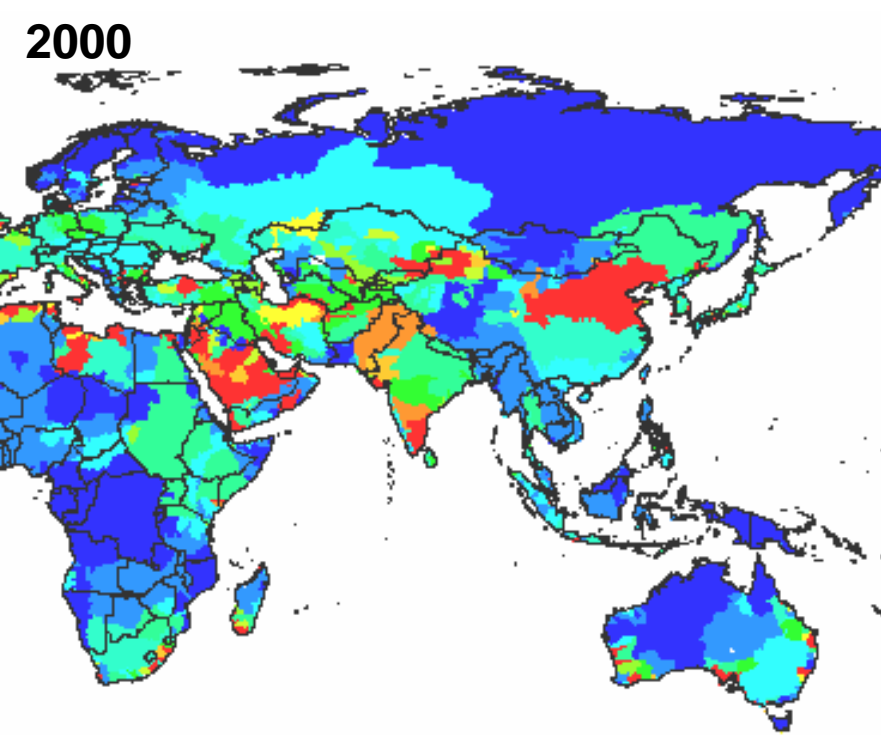
**GHG
Stabilization**



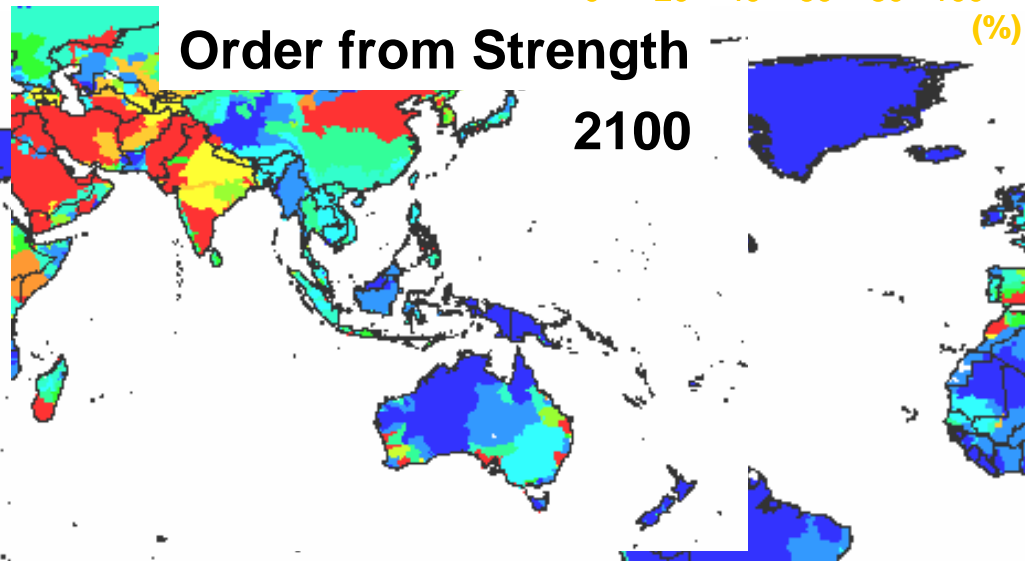
Water Stress Index (ratio between total withdrawal and renewable water resource)



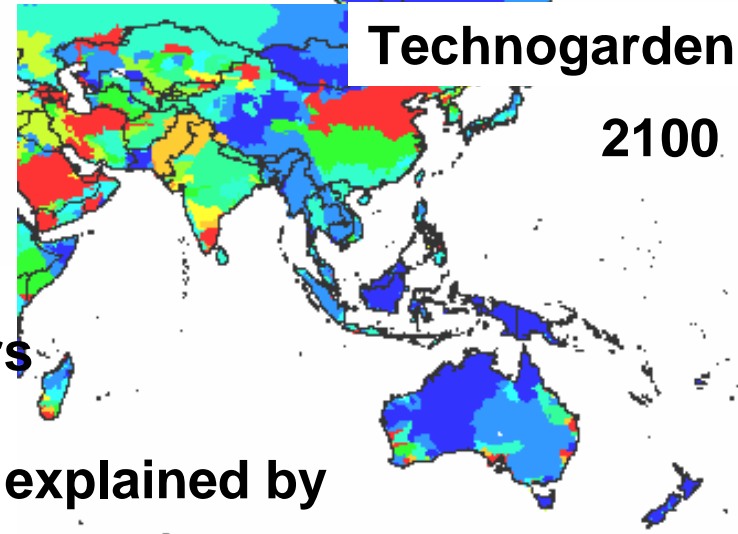
2000



Order from Strength
2100



Technogarden
2100



Withdrawal: driven by socio-economic factors
Water resource: driven by climate factors
General trend of stress index change can be explained by demand side.

Technology Innovation

Japanese companies have started to invest in about 400 technologies in the environmental field

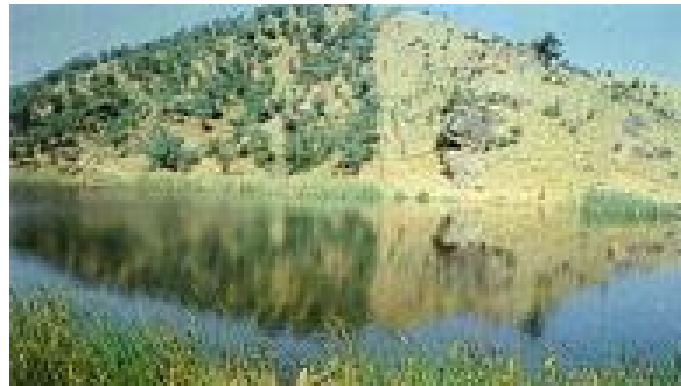
- Zero-emission technologies
- Information technologies
- Bio-technologies
- Nano-technologies, etc.

Technology transfer to developing countries (Leapfrogging)

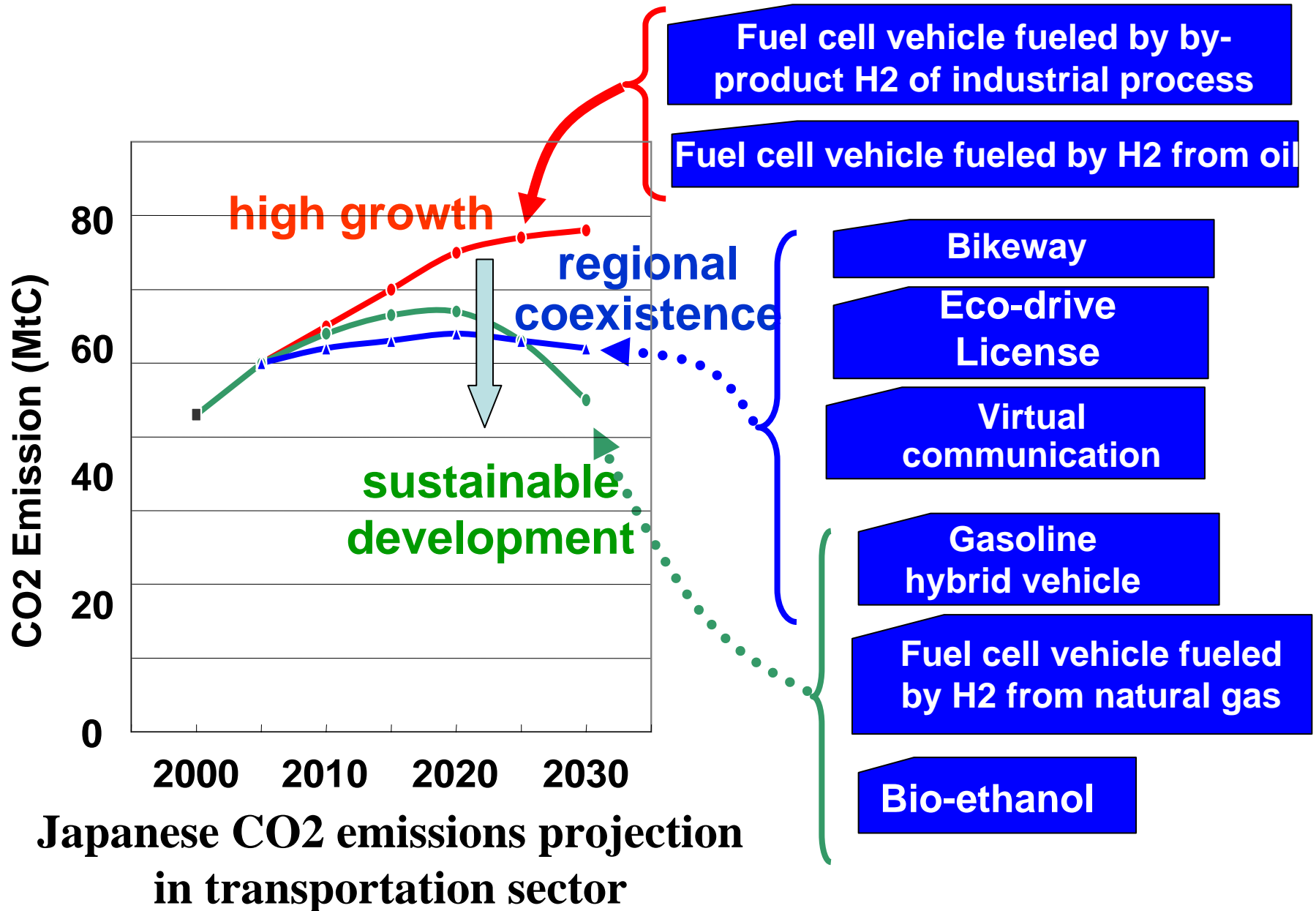
- Hybrid Vehicle
- Bio-Ethanol
- Water treatment
- Photovoltaic

Institutional Innovation

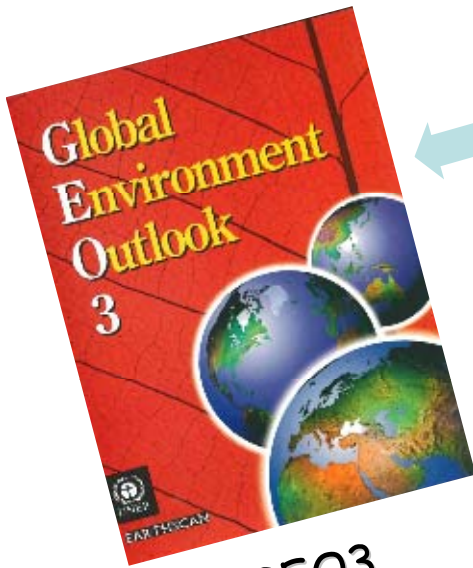
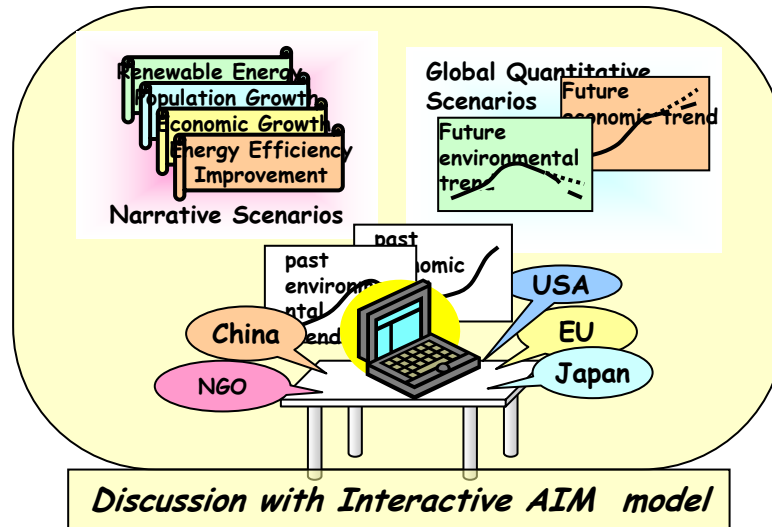
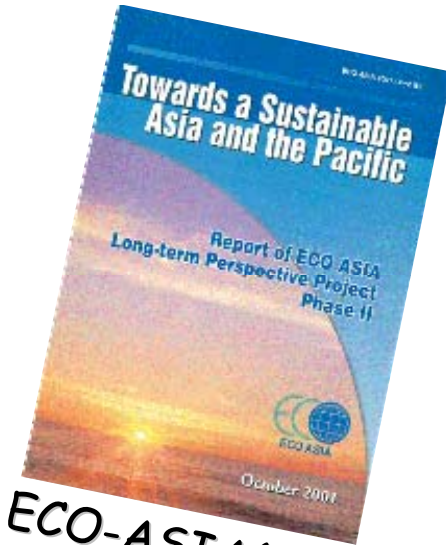
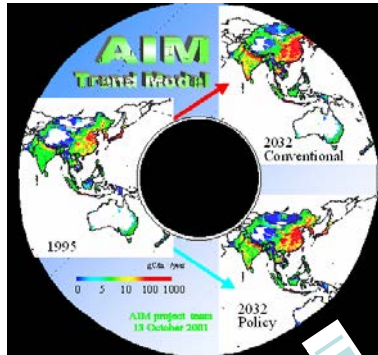
Managed and unmanaged areas in Rajasthan



Mitigation measures vary depending on scenarios



AIM as Interactive Participatory Tool



GEO3



APEIS(IEA)