



The 7th AIM International Workshop
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National Institute for Environmental Studies, Tsukuba, Japan

Studies on Climate Change and Related Activities

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International Activities

- IPCC SRSDCC (Jun. 01, Washington) 
- Energy Modeling Forum (Aug. 01, Snowmass)
- Millennium Ecosystem Assessment (Oct. 01, Capetown) 
- IPCC TGCIA (November, Barbados) 
- Global Modeling Forum (Dec. 01, Macao) 
- Tyndall Center Workshop (Feb. 02, Southampton) 

Linkages between Climate Change Mitigation and Sustainable Development

**SD
policy**

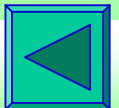
- Environmental & economic policies
- Human and social capital
- Infrastructure
- Innovation and technology

CCM

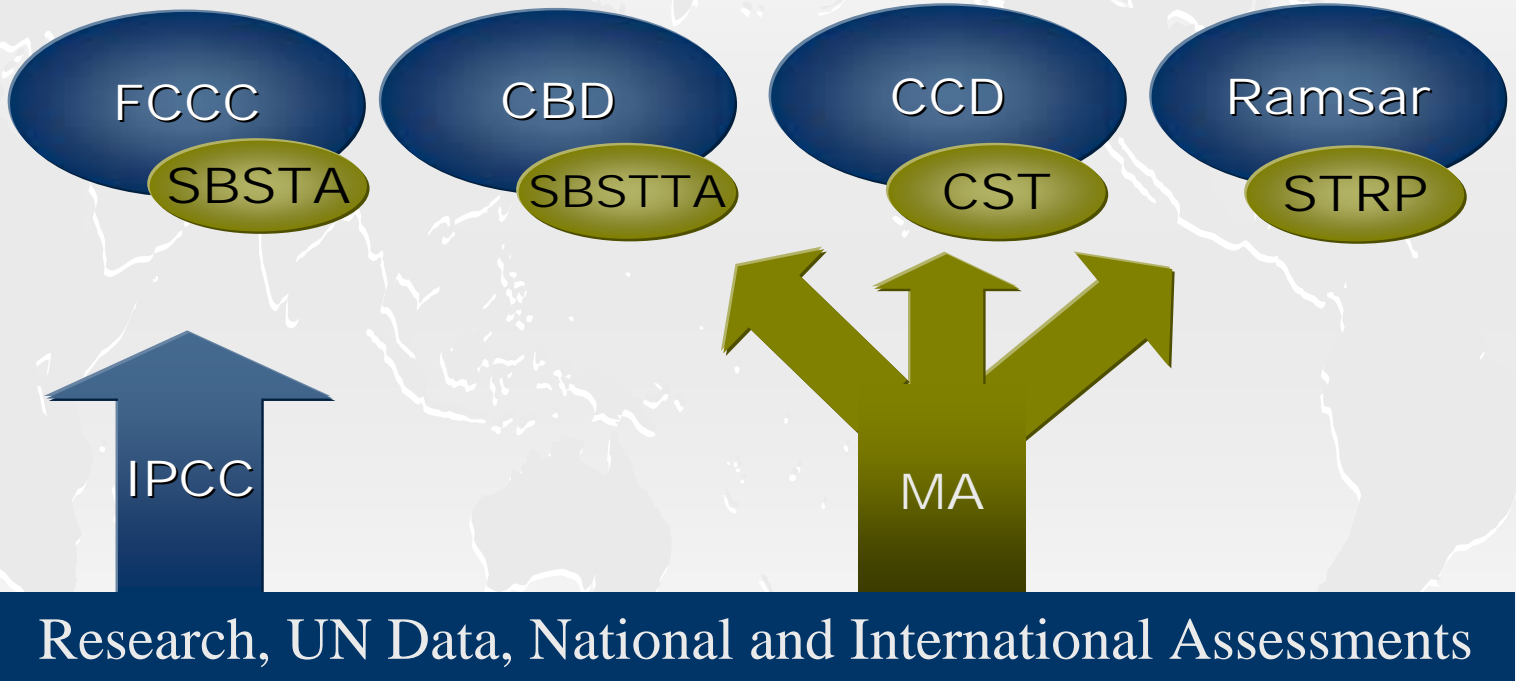
SD

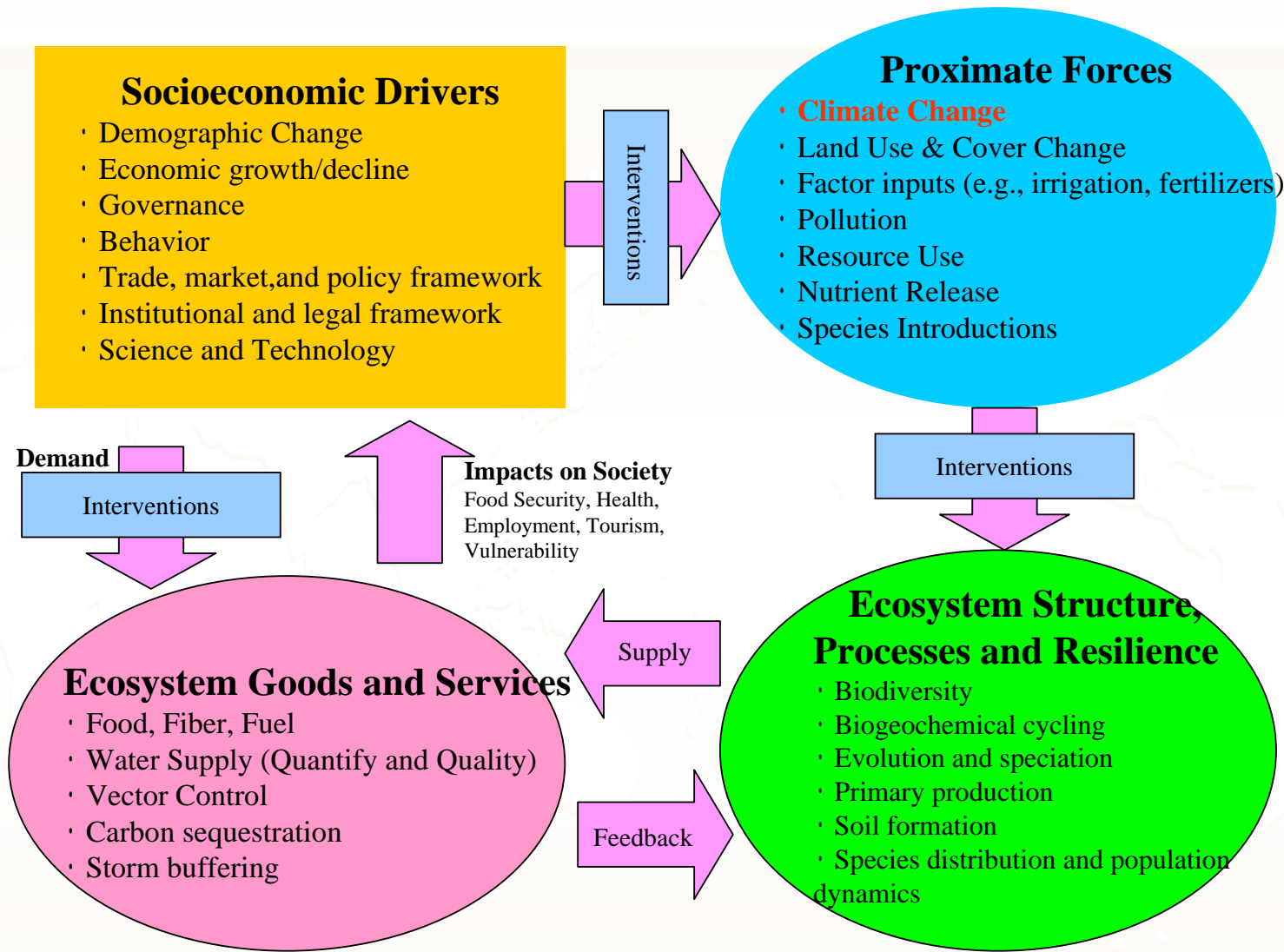
- Avoided CC impacts
- Costs and distribution of costs
- Ancillary benefits
- Forestry/agriculture impacts

**CCM
policy**



Multiple Users Among Conventions

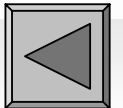




Framework of Ecosystem Assessment

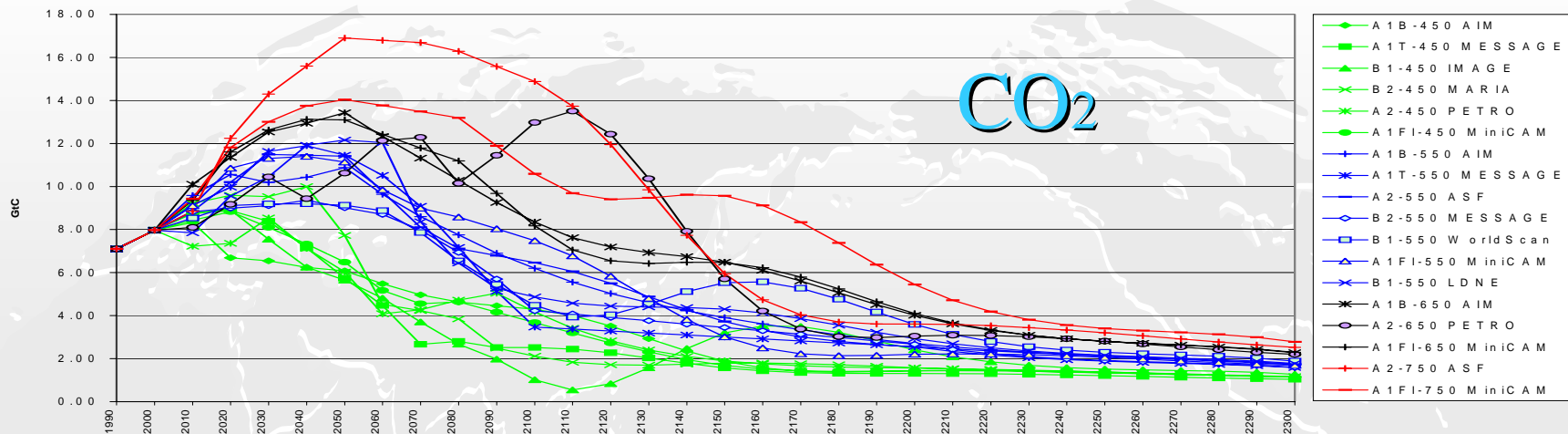
Assessment Outputs

- **Conceptual Framework (2003)**
- **Assessment Reports (2004)**
 - Sub-global Assessment
 - Condition/Trends Assessment
 - **Scenario Assessment**
 - Response Options Assessment
 - Summary Volume (SPMs of 4 reports)
- **Synthesis Reports**
 - Biodiversity (2004)
 - Desertification (2005)
 - Wetlands (2005)
 - Private Sector (2005)
 - Human Well-being (2005)

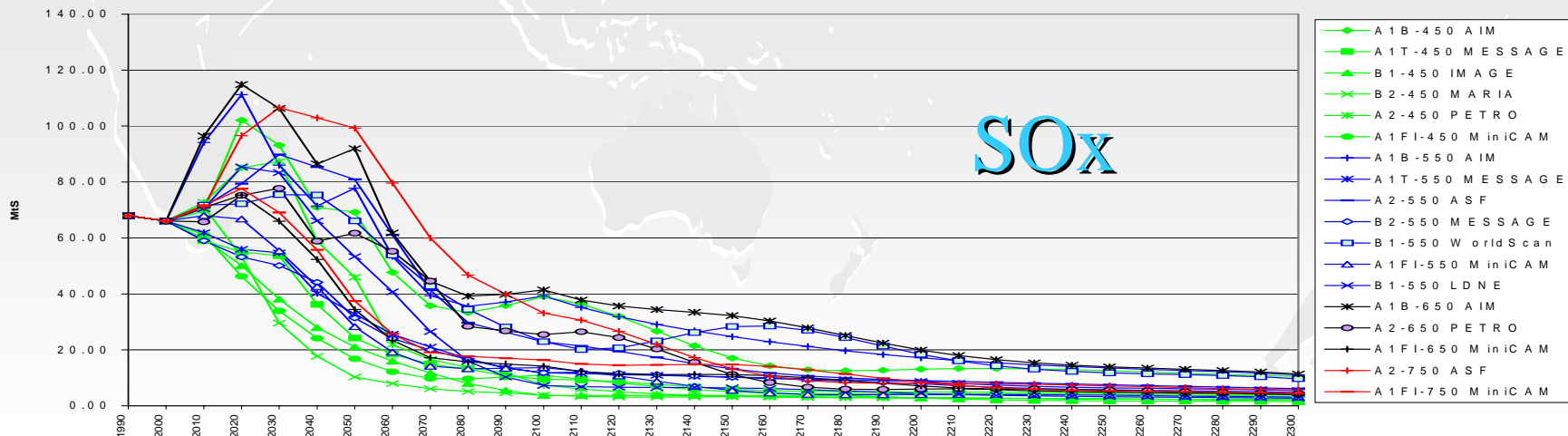


Post-SRES scenarios for climate change simulations

CO₂ Emissions



SO₂ Emissions



Recommendation on new IPCC SRES



- Scenarios with a starting year updated from **1990 to 2000**
- More sophisticated socio-economic scenarios with **spatial dynamics**
- Adding other substances, such as **black carbon, organic carbon, nitrate aerosols, mineral dust**

Necessary improvement of post-SRES analyses

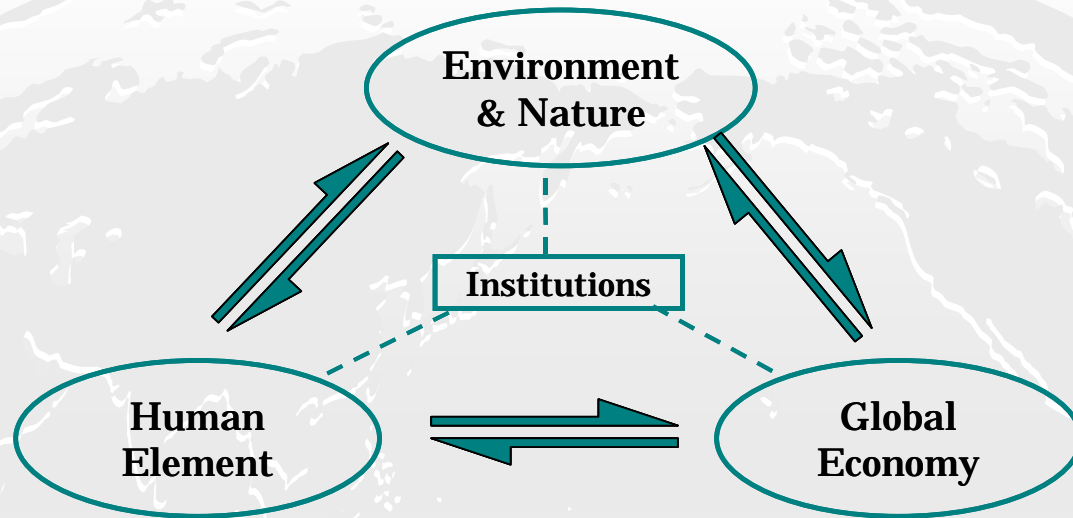
- analyses of **costs and benefits of different time paths** for stabilization;
- analyses of **ancillary benefits and costs**, notably those related to local and regional air pollution (ozone, PM, ammonia, SO₂, NO_x, etc.);
- implications of stabilization of **radiative forcing rather than CO₂ concentration**;
- detailed analyses of **land-use policies** accounting for biofuel supply in mitigation scenarios and the demand for food, fiber and water resources;
- analyses of **different regional emissions distributions** based on different equity principles.

A few proposals for new emission scenario development

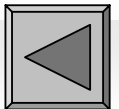
- IPCC TGCIA
- Kassel University
- Energy Modelling Forum



Forum for Globally-Integrated Environmental Assessment Modeling



- New Modeling Forum for General Environmental Audiences
- Dutch initiative
- More attention to sustainability rather than innovation
- Less focusing on developing regions
- Qualitative approach want to increase its voice



Keywords in the Tyndall Workshop

- **Ancillary benefits and innovation** for the cost reduction of Kyoto
- **Adaptation effects** for determine the long term stabilization level of global climate, which is close related to the target for the second term commitment

Recent trends of IAM research

- From climate change studies to **sustainable development studies**
- Increased importance of international IA process, especially on **North-South platform to create common scientific basis**
- More attention to the **international interaction** between economy and environment
- Greater focus on **dynamic spatial economy-environment interactions** as well as **ecosystem**
- More expectation of **innovations** such as advanced technology introduction, environmental industry encouragement, consumption shift, and market restructuring
- Necessary response to the policies for **Kyoto protocol**, the **2nd term commitment**, and to the **new scientific discoveries**