



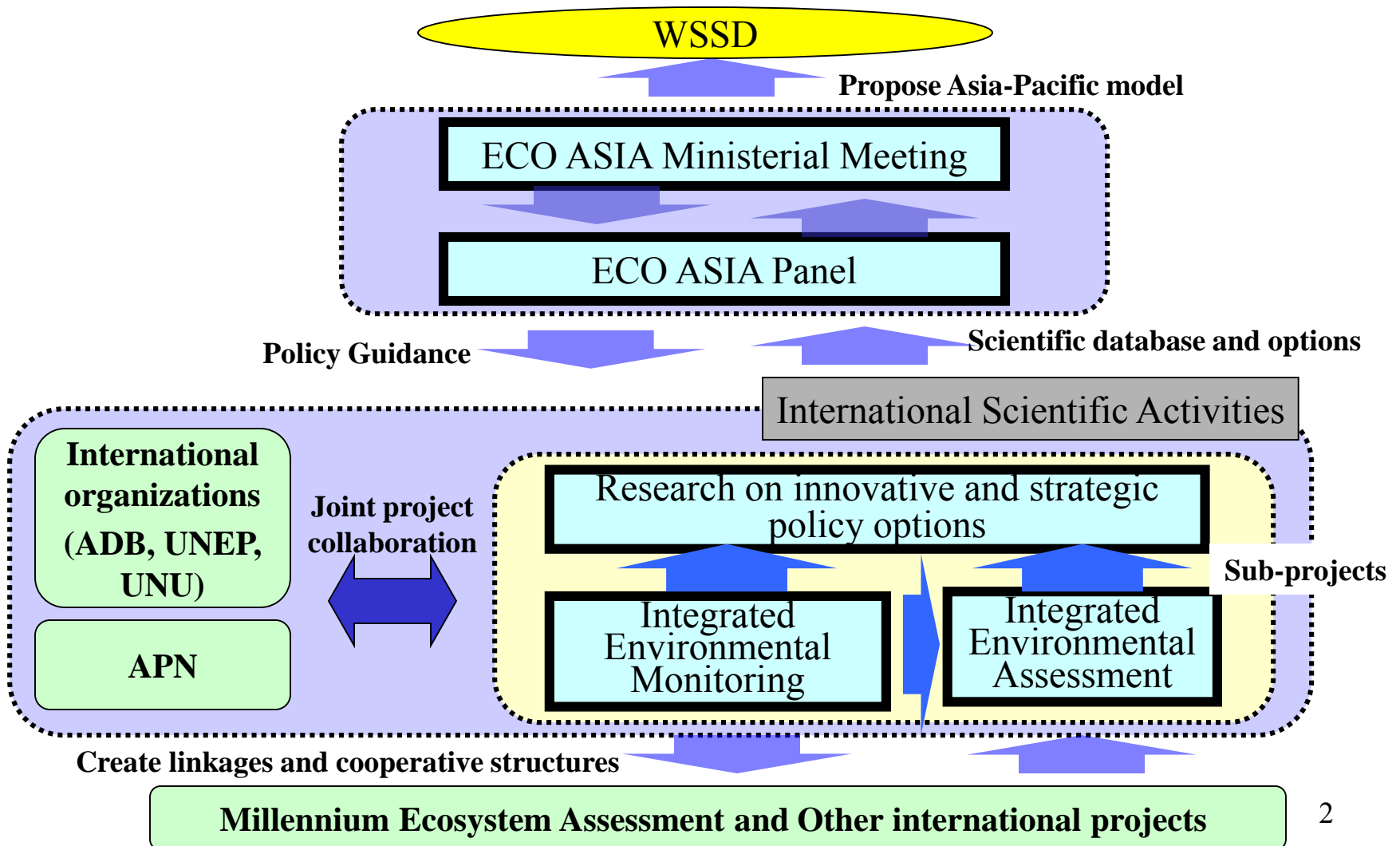
**Asia-Pacific
Environmental Innovation Strategy Project**

Role of Integrated Environment Assessment Models in Developing Nations

**APEIS Capacity Building Workshop on
Integrated Environment Assessment in the Asia-Pacific Region
October 24-26, 2002, New Delhi**

**Prof. Dr. Tsuneyuki Morita
National Institute for Environmental Studies**

Framework of APEIS



Management Framework

ECO ASIA
 · Environmental **ministers** and **international organizations** from the Asia-Pacific region

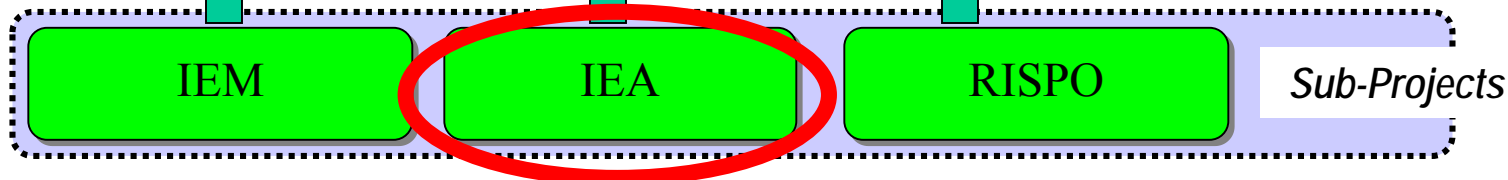
→ Forum for **policy discussion** based on outcomes of scientific activities and provider of **policy guidance**

ECO ASIA Panel
 · **Senior officials** from Asia-Pacific countries
 · Members of **RCC**
 · Representatives from **international organizations**

→ **Review, endorsement and coordination** of the overall project
 → Forum for coordination between **scientific activities and policy makers**

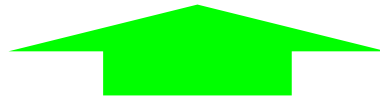
Research Coordination Committee (RCC)
 Representatives of each sub-project and APN experts

→ **Coordination** between each sub-project
 → Development of a **draft overall research plan**



Objectives of APEIS

- To develop **scientific knowledge-based tools and innovative strategy options** to promote informed decision-making
- To promote **regional cooperation and capacity building**
- To propose a **model of a regional initiative** to substantiate and realize the Plan of Implementation for the WSSD



Three Sub-Projects

- **IEM**: to develop an integrated environmental monitoring system
- **IEA**: to provide integrated models of the environment and economy, as well as a strategic database
- **RISPO**: to propose innovative and strategic policy options and policy inventories

Integrated Environmental Assessments (IEA)

- **A set of integrated assessment models** as major tools of APEIS, including an environment-economy model, an ecosystem/health impact model, a water resource/agriculture model, a material/recycle-economy model and an energy technology model
- **Strategic database** as well as indicators for APEIS use
- **Systematic projections** of environmental trends as well as **assessments of innovative options** based on the above models and database

Participating Organizations

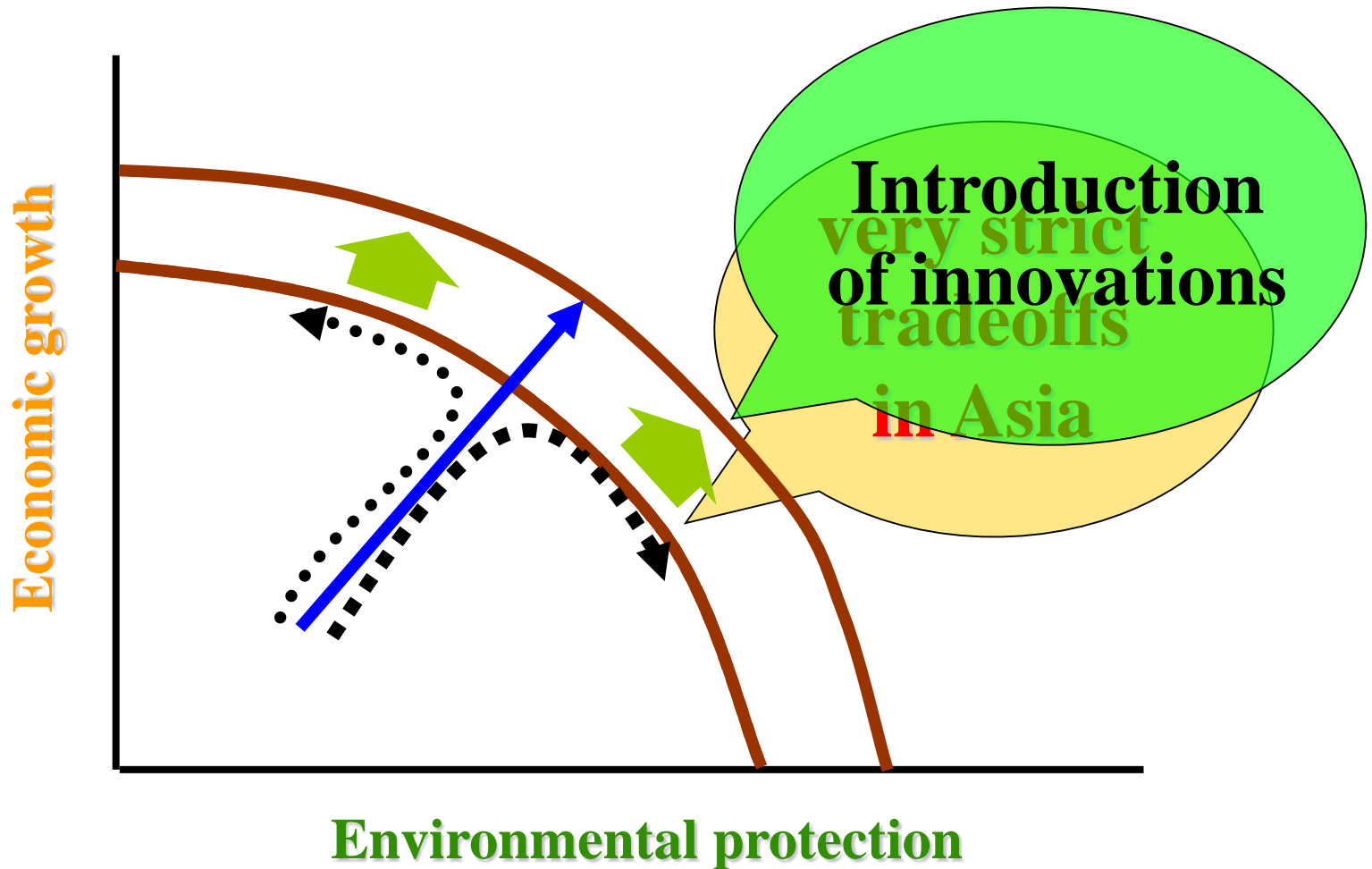
NIES (Japan); Kyoto University (Japan); Energy Research Institute (China); Institute of Geographical Sciences and Natural Resources Research(China); Indian Institute of Management, Ahmedabad (India); Asian Institute of Technology (Thailand); Korea Environment Institute (Korea); Sangmyung University (Korea); Universiti Putra Malaysia (Malaysia)

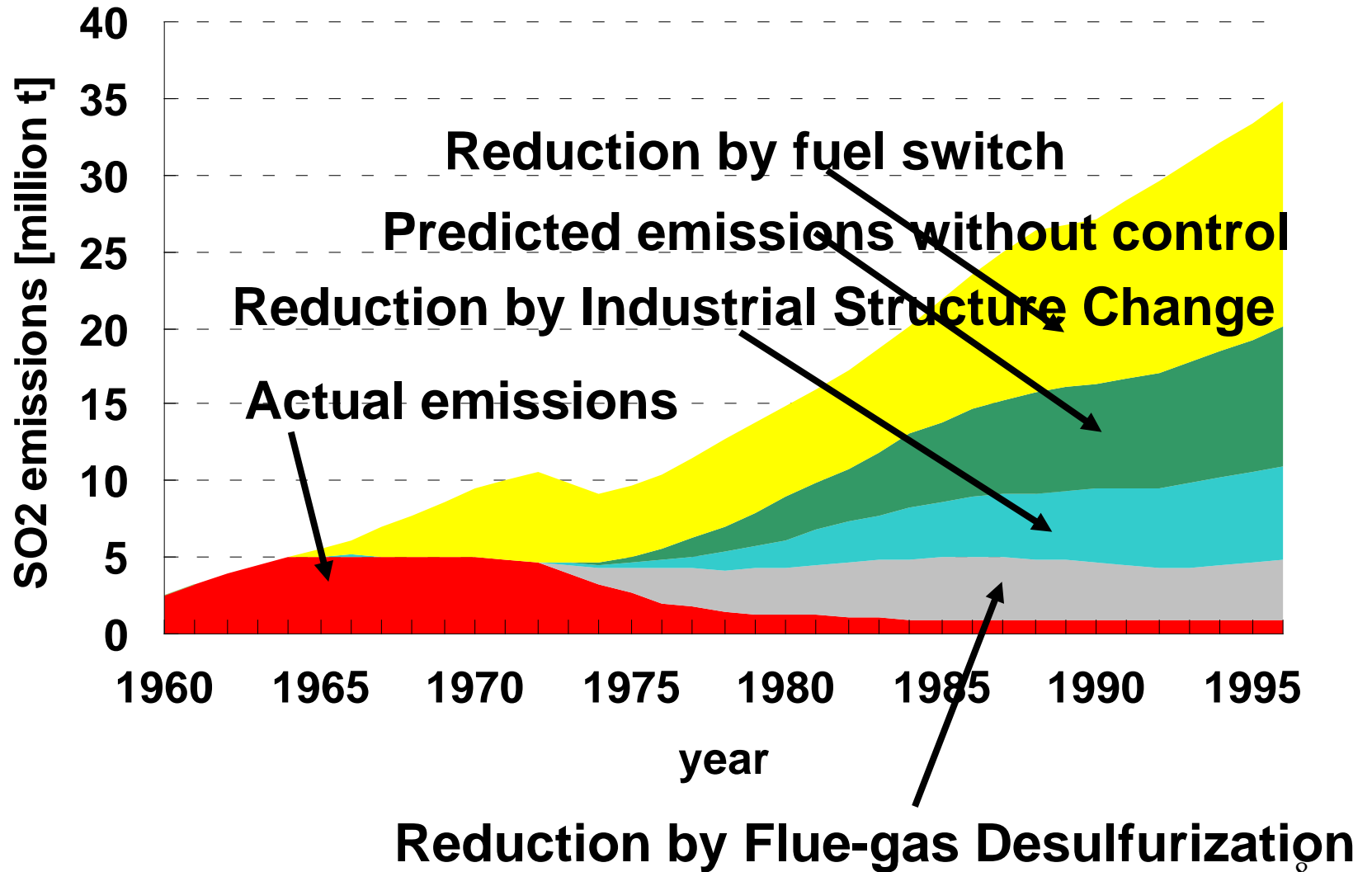
Calling for wider participation

Capacity Building Activities

- (1) Assessment models are transferred with detailed manuals**
- (2) Experts are invited to NIES or participating organizations to participate in the model development process**
- (3) The 1st Capacity Building Workshop on IEA will be held in October 2002 in Delhi, India.**

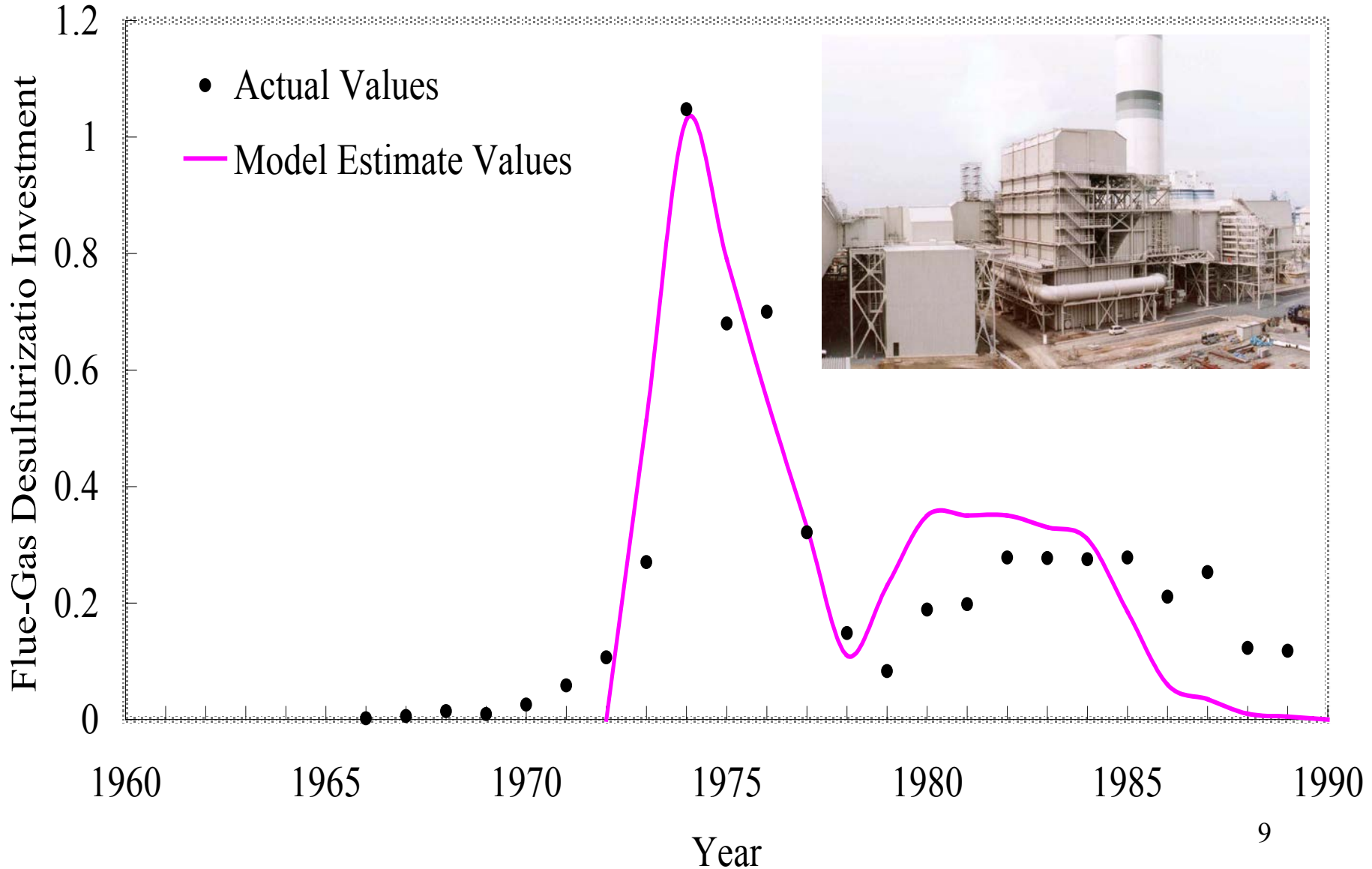
Why is Innovation Required for Environmental Policies?





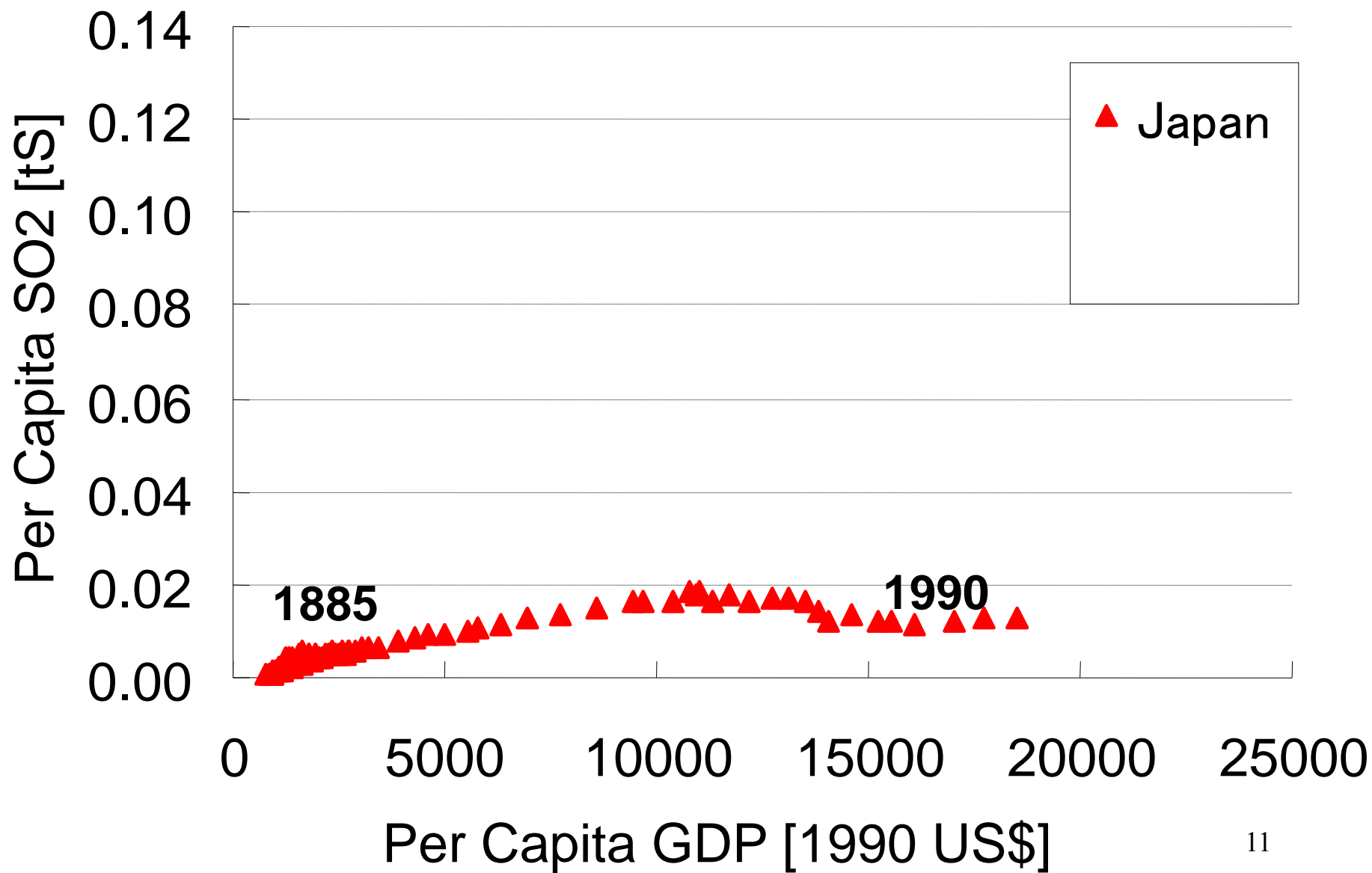
Actual Investments for Flue-Gas Desulfurization and Model Calculation Results(1960-1990)

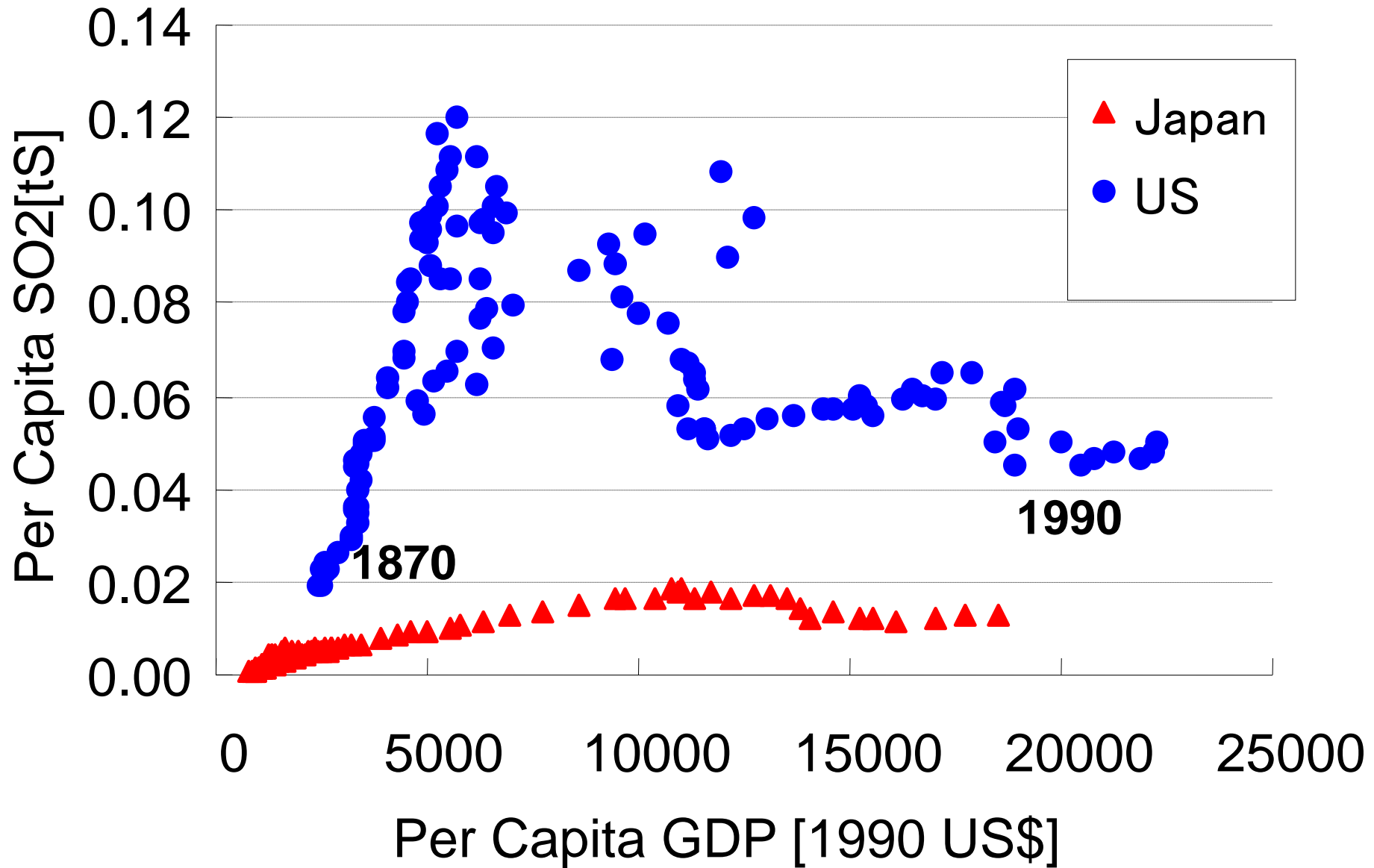
(Billions \$U.S.)

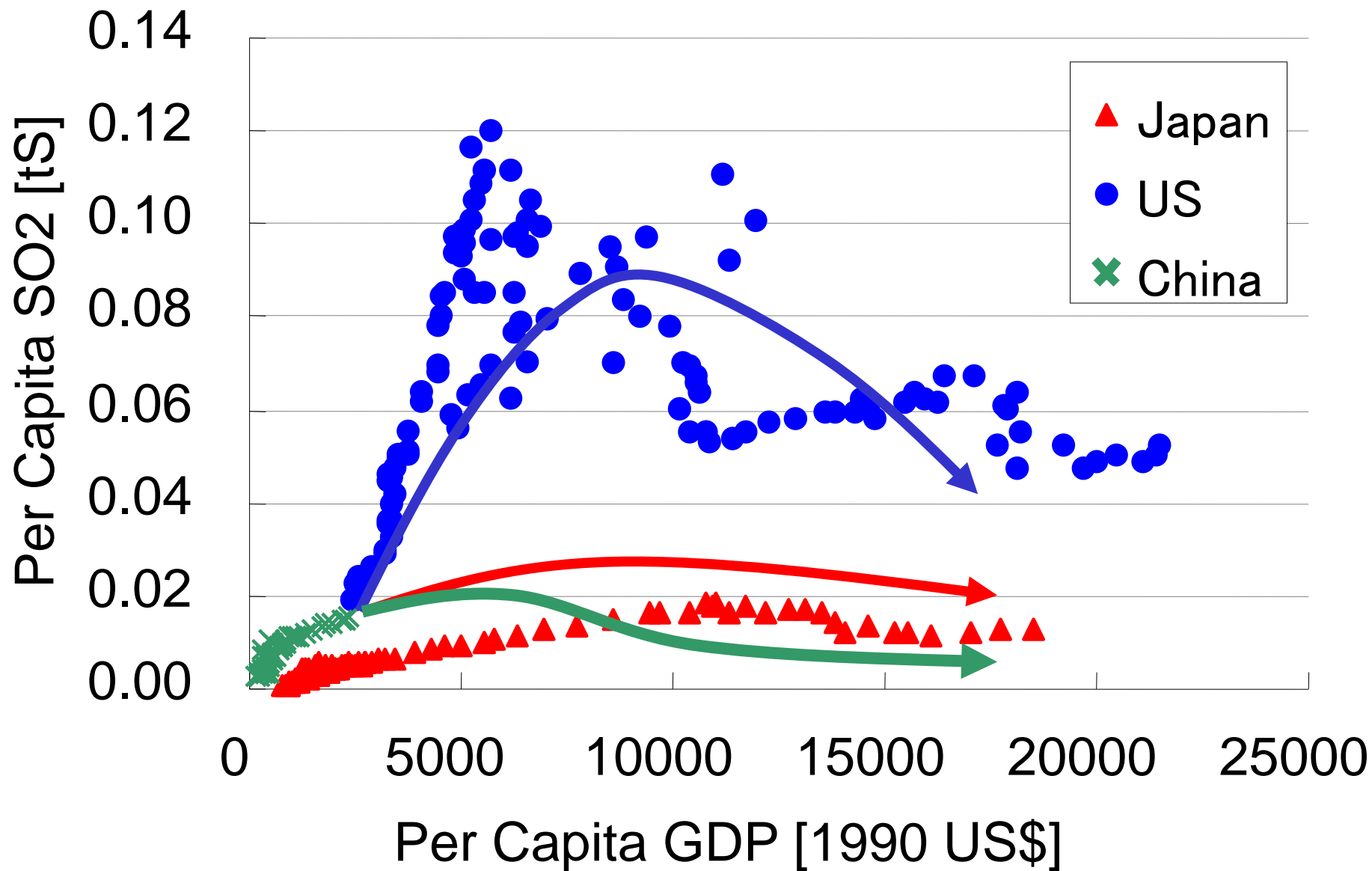


Why the Japanese pollution control was integrated with economic development ?

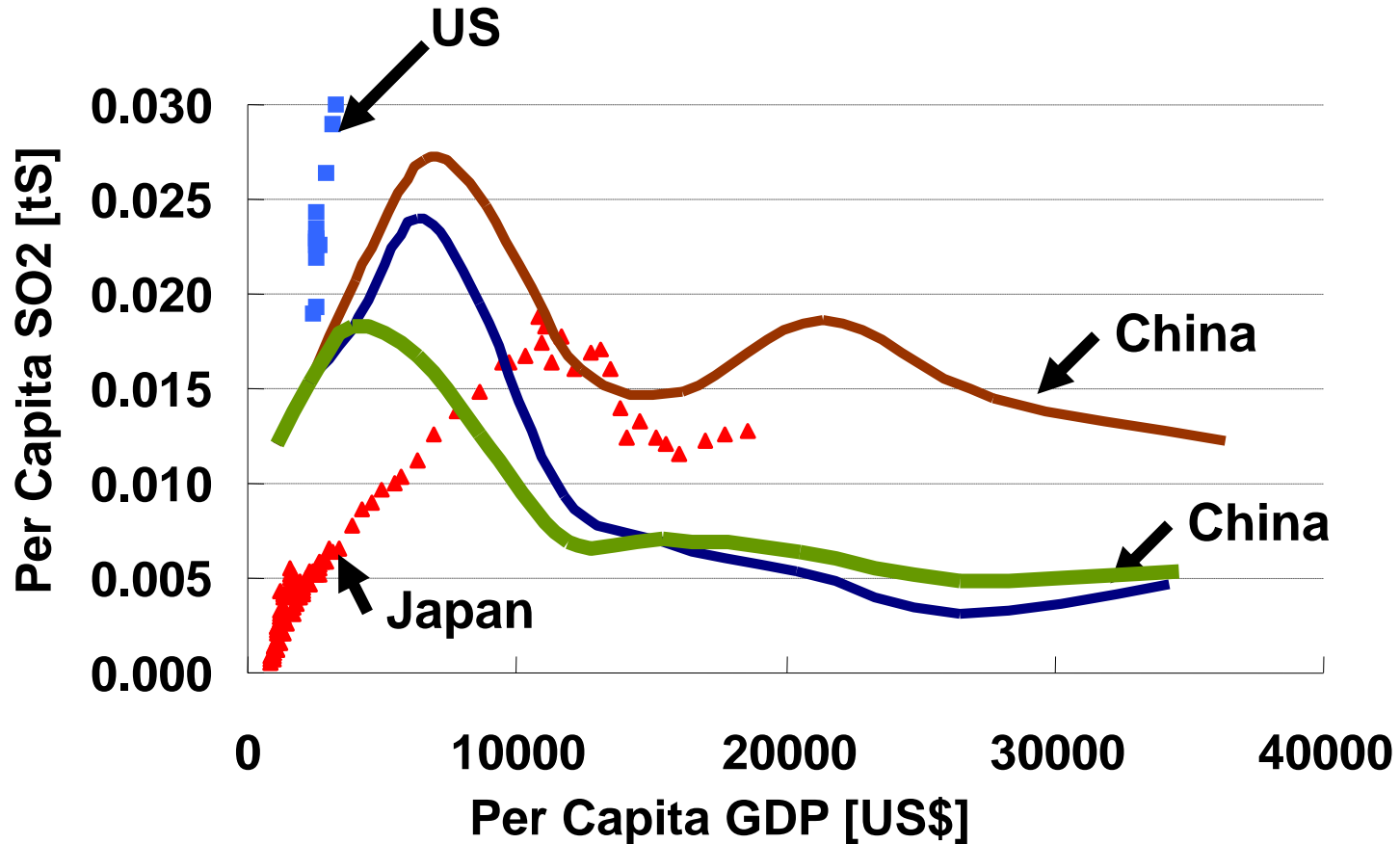
- (1) Technological development was essential to reduce the costs of pollution abatement.**
- (2) A Competitive market gave an environment which was crucial in giving companies the incentive to invest in technology development.**
- (3) Environmental investment created new businesses and industries in Japan, which increased Japan's GDP.**
- (4) Such environmental investment improved not only the quality of products, but also production processes and recycling processes in factories, which in turn encouraged Japan's long-term development.**



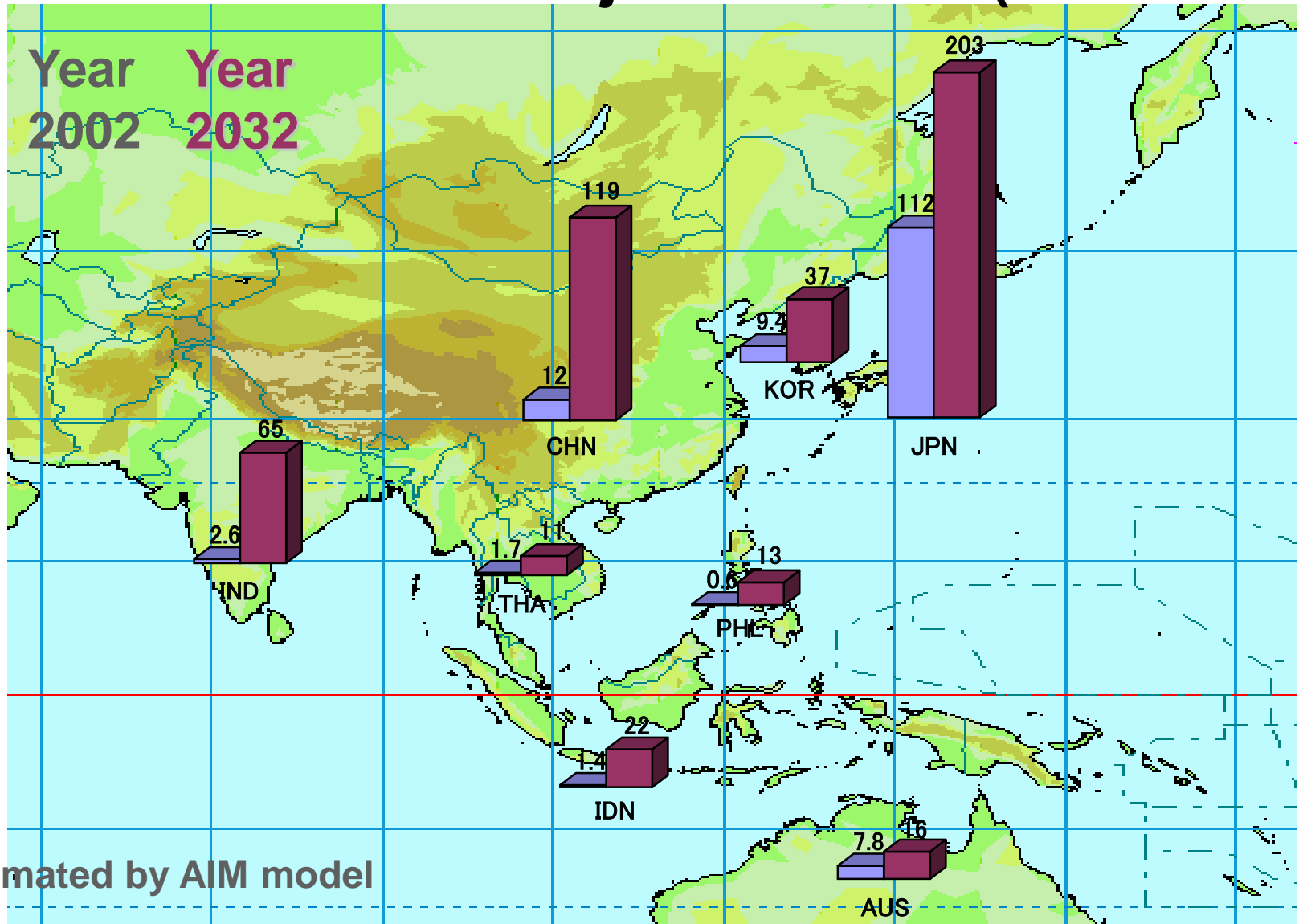




If China follows Japanese experience, and if China precede Japan - - -
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Production of Environmental Industries in the Asia-Pacific Major Countries (billion US\$)



Estimated by AIM model

**Policymaking
Process**



Integrated Assessment

AIM
(Asia)

IMAGE
(Netherlands)

GCAM
(USA)

MIT
(USA)

meteorology

geophysics

Atmospheric
Chemistry

economics

policy sciences

ecology

pedology

geochemistry

paleo-
climatology

hydraulics

What is **Integrated Assessment (IA)** ?

A framework for the "best available synthesis of current scientific, technical, economic, and sociopolitical knowledge" (IPCC 1995).

History

beginning 1970s

1st IA : Climatic Impacts Assessment Program (CIAP)

late 1970s

Formal computer simulation models were introduced

during 1980s

IA trials in ozone layer, acid rain, and climate change issues

1990s

Rapid increase of interest in the IA and many progresses in

computer simulation models as a core tool of IA.

Integrated assessment and Capacity Building

- **integrated assessment** approaches have led to **improvements in communication** between policy-makers and scientists
- the development of **Integrated Assessment Model** has greatly **improved the ability** of, and **incentives** for, scientists and policy makers to **integrate their research and governance activities**

Integrated assessment and Capacity Building (cont.)

- the development of integrated assessment approaches has **created a competitive situation** among science and policy fields, which **encourage new research and policymaking**
- therefore, **long-term joint research program** for integrated assessment is one of **very effective** way to build capacity for comprehensive policymaking