



# Current situation of AIM/Trend, AIM/CGE(Asia)

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# Role of AIM/Trend and AIM/CGE(Asia)

- AIM/Trend: econometric method
  - Regression methods
  - AP 42 countries, year of 2032
  - Grasp overview of country (regional)-level economic, energy, environmental indicators for development of AIM/CGE(Asia)
- AIM/CGE(Asia): top-down economy model
  - Computer general equilibrium model
  - AP 17 countries, year of 2100
  - Develop socio-economic scenarios based on economic theory for AIM/Trend, AIM/Enduse, AIM/Material

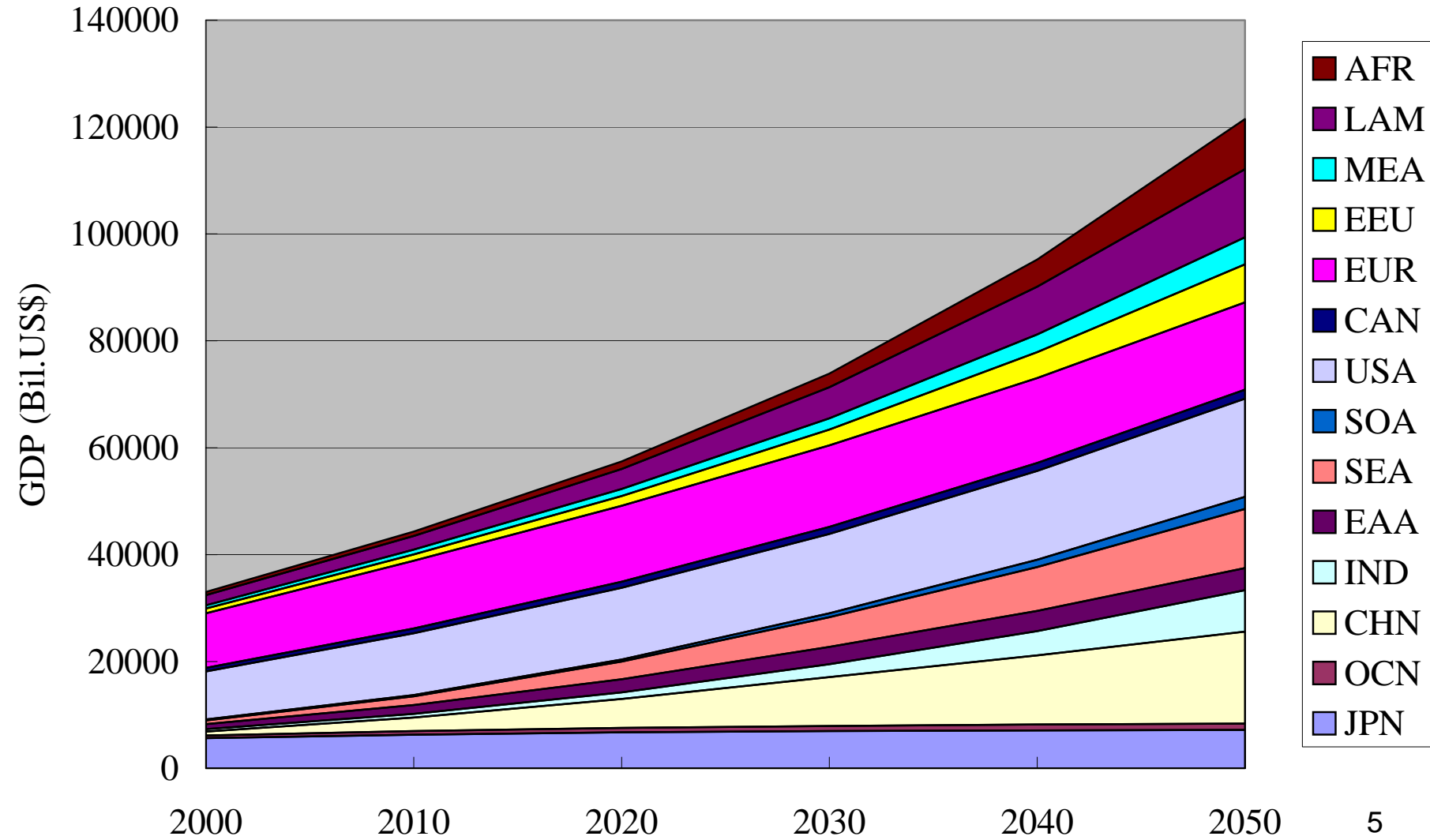
# Topics of AIM/Trend

- AIM/Trend(world)
  - Global 14 regions, year of 2050
- AIM/Trend/Biomass
  - biomass demand

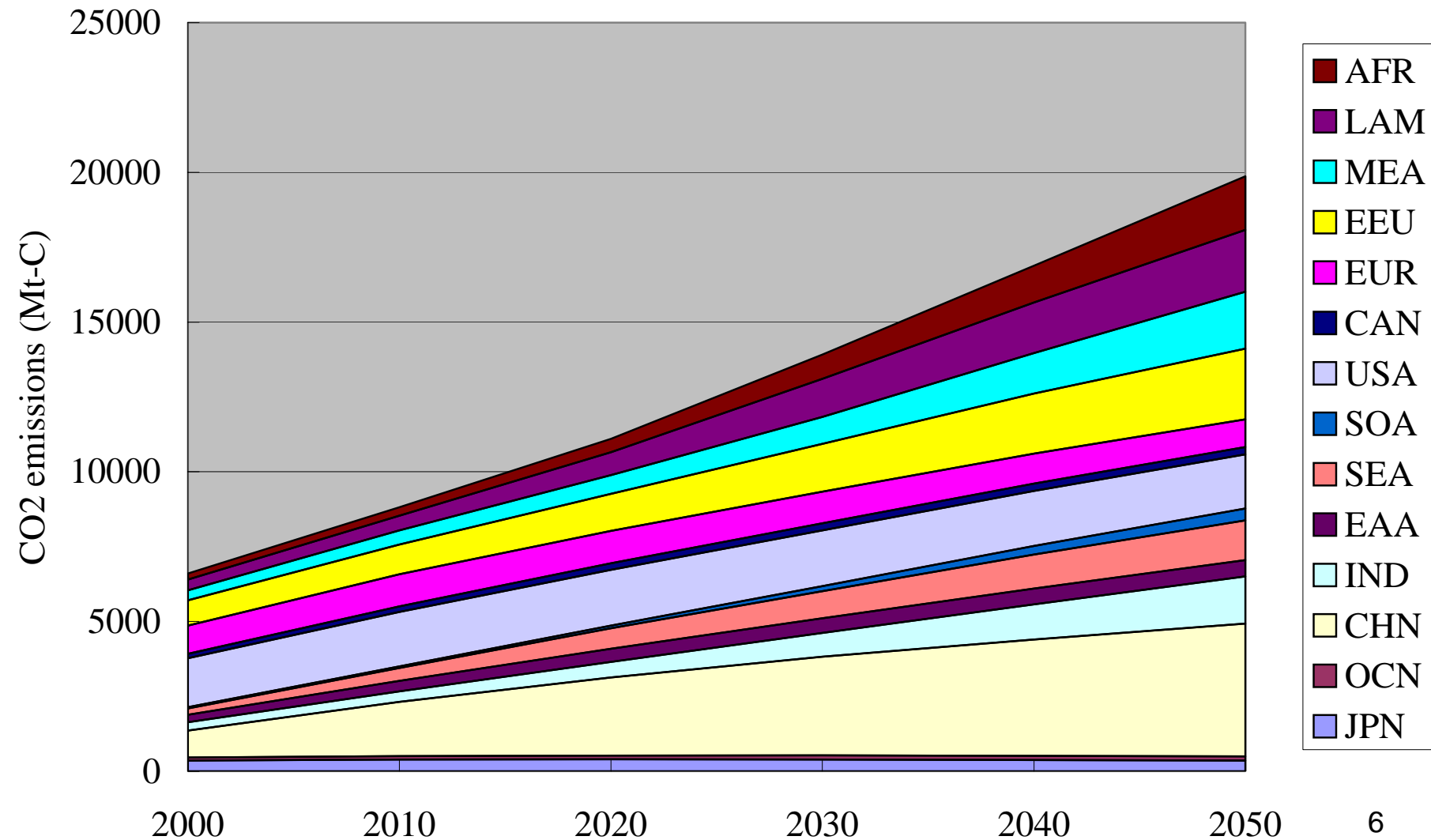
# AIM/Trend (world)

Asia	JPN OCN CHN IND EAA SEA SOA	Japan Australia and New Zealand China India East Asia South East Asia and Oceania Other South Asia
Other OECD	USA CAN EUR	USA Canada OECD Europe
Transition Economies	EEU	CIS and Eastern Europe
Other Developing	MEA LAM AFR	Middle East Latin America Africa

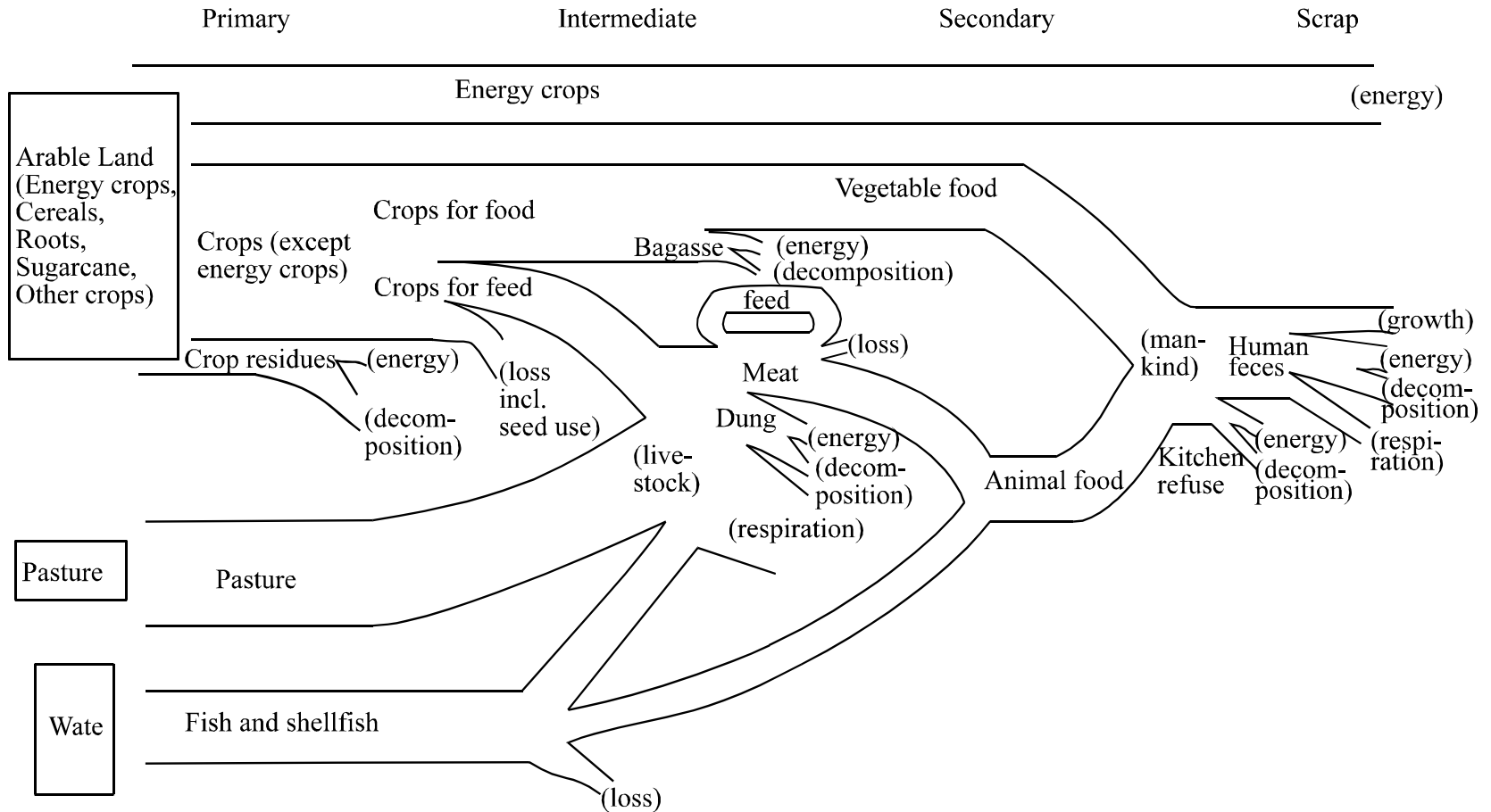
# GDP scenario



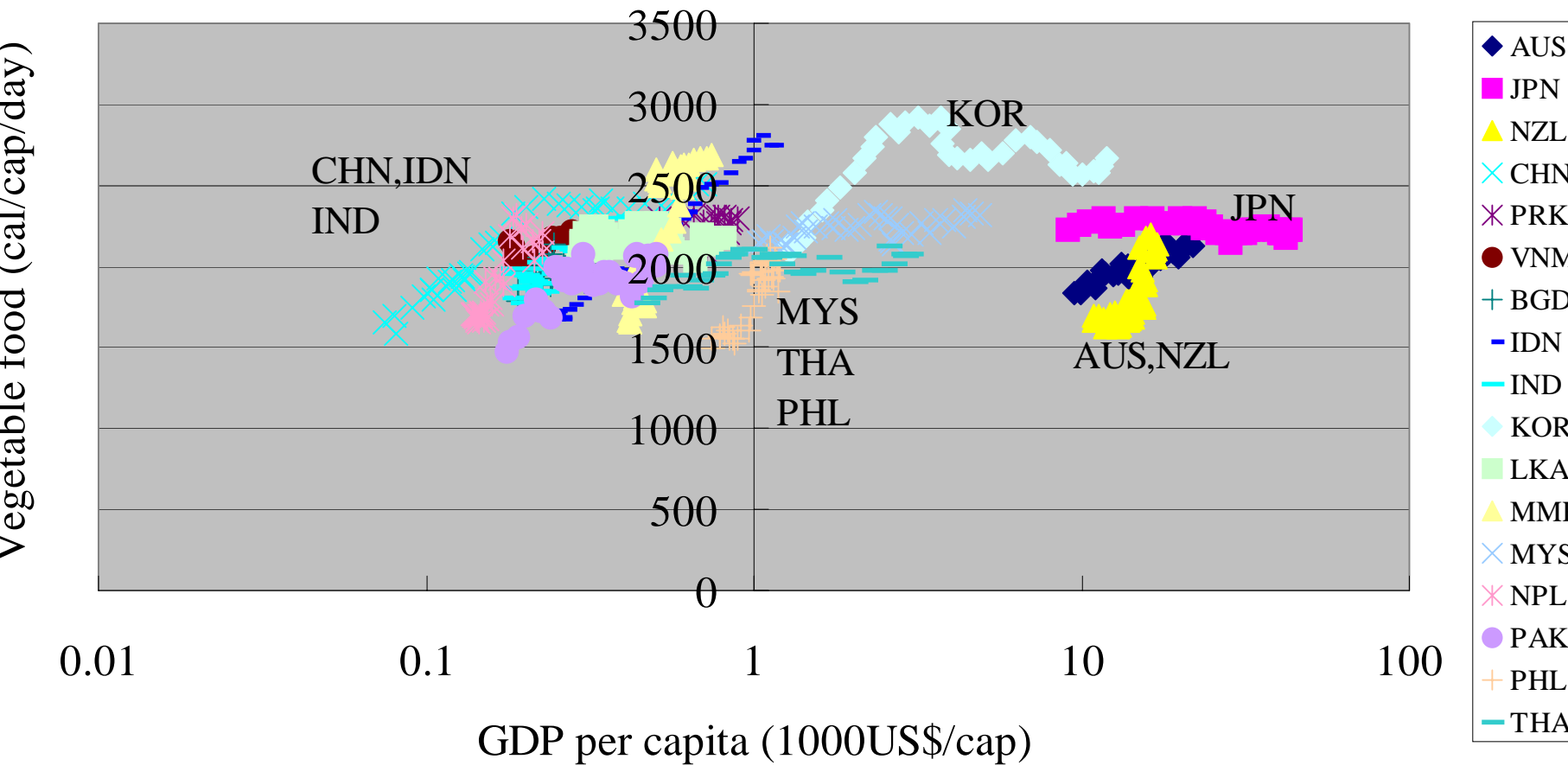
# CO<sub>2</sub> emissions



# AIM/Trend/Biomass –Food-

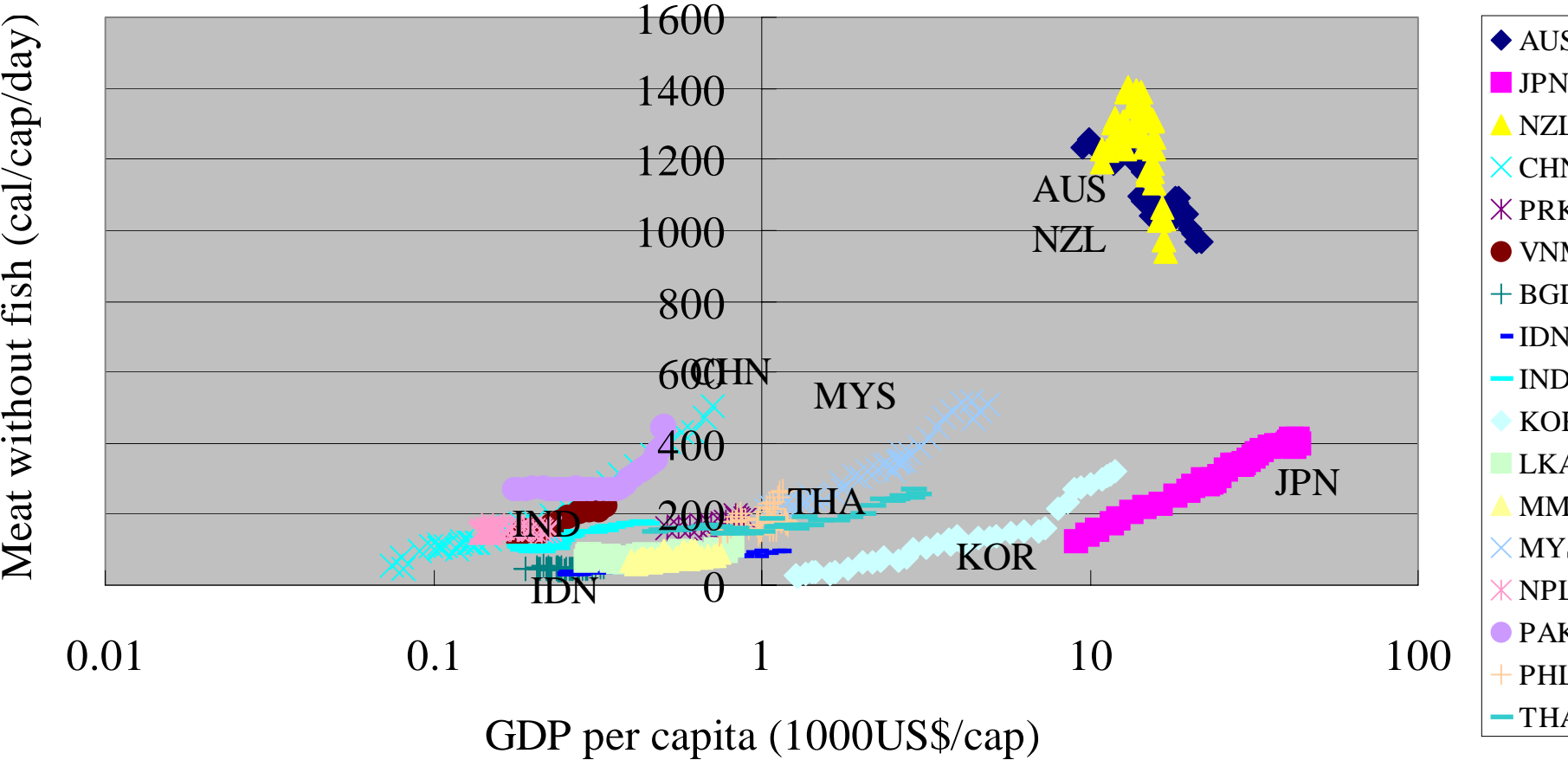


# Vegetable food demand trajectory





# Meat demand trajectory



# AIM/CGE(ASIA)

- Type: Top-down, CGE, recursive
- Program : GTAP-EG/GAMS/MPSGE
- Database : GTAP ver.5(1997), IEA and so on...
- Target Year: 2030/2100
- Target Region: 26 regions(17 AP countries)
- Target Sector: 24 sectors

# Economic Top-down: AIM/CGE(Asia)

## Region(26)

AUS,NZL,CHN,HKG,JPN,KOR,TWN,IDN,MYS,PHL,SGP,THA,VNM  
BGD,IND,LKA, **ASI**, CAN,USA,WEU,EEU,FSU,MEA,LAM,AFR, **ROW**

NPL, PAK, BTN, MDV

Include other Asia-Pacific countries

## Sector(24)

\* Energy

OIL

COL

GAS

P\_C: Oil products

ELY: Electricity

\* Energy Intensive

I\_S: Iron and steel

CRP: Chemical

PPP: Pulp and paper

NMM: Non-metal

OMN: Mining

\* Agriculture

FPR: Food

LUM: Wood

AGR: Agricultural

\* Other industry

NFM, TRN, OME,

LUM, CNS, TWL, OMF

\* Other sector

ATP, T\_T

SER, DWE

CGD

## Factor(5)

Capital

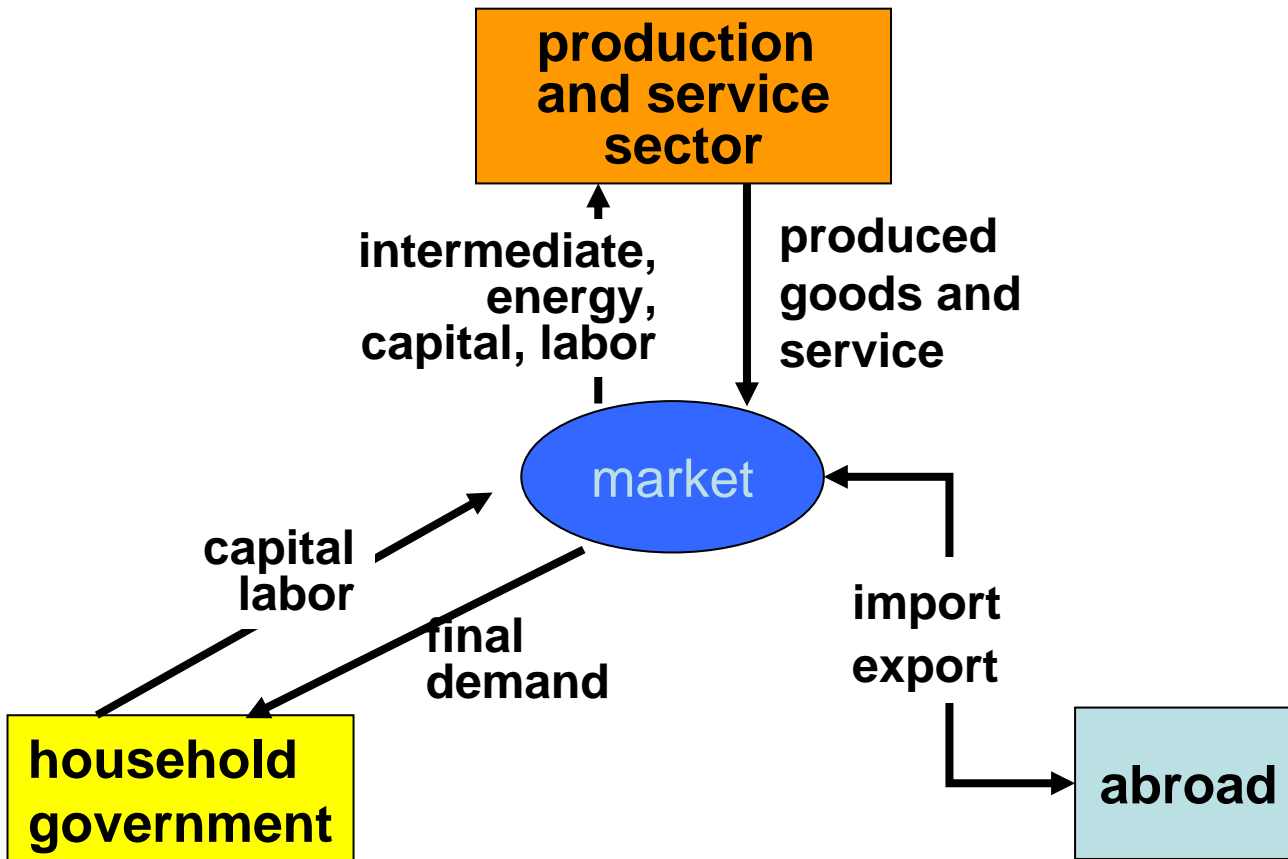
Labor

Skilled Labor

Resource

Land

# Structure of AIM/CGE (Asia)



# Modification of energy supply

- Fossil fuel resource
- Renewable energy
- Energy conversion (electricity)
- Monetary balance and physical balance

# Fossil fuel production

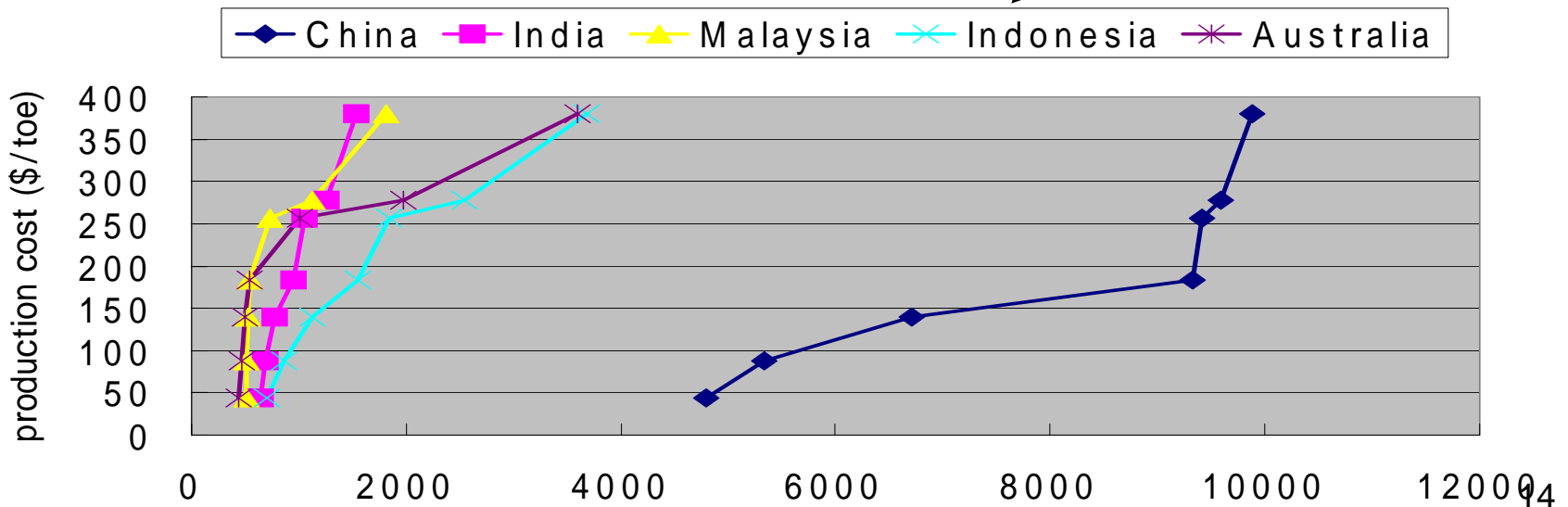
crude oil, natural gas, coal production

Intermediate  
products

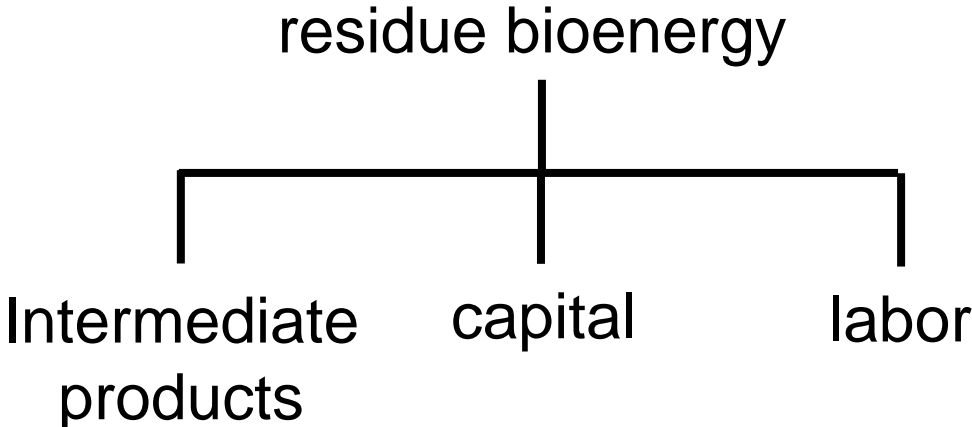
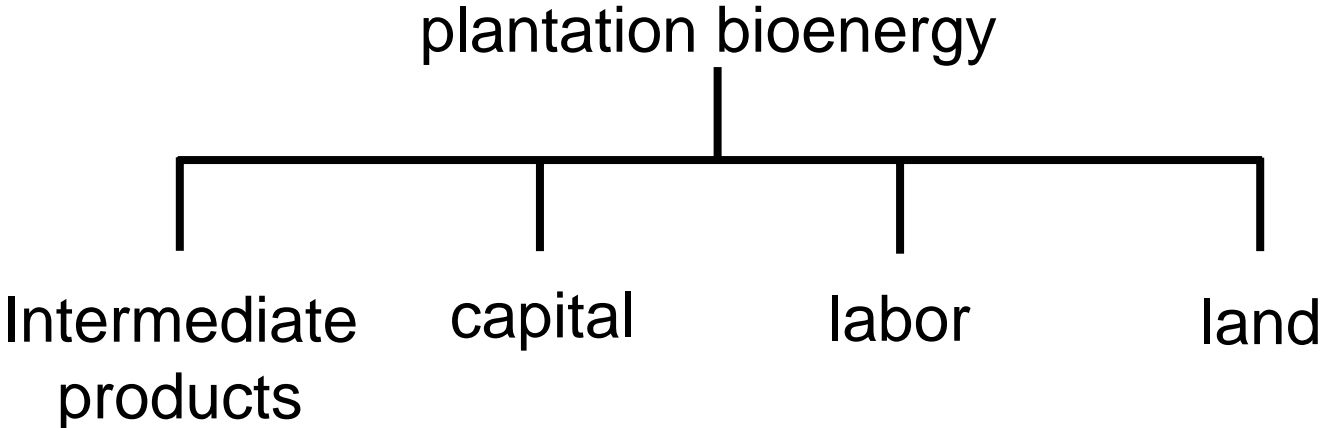
capital

labor

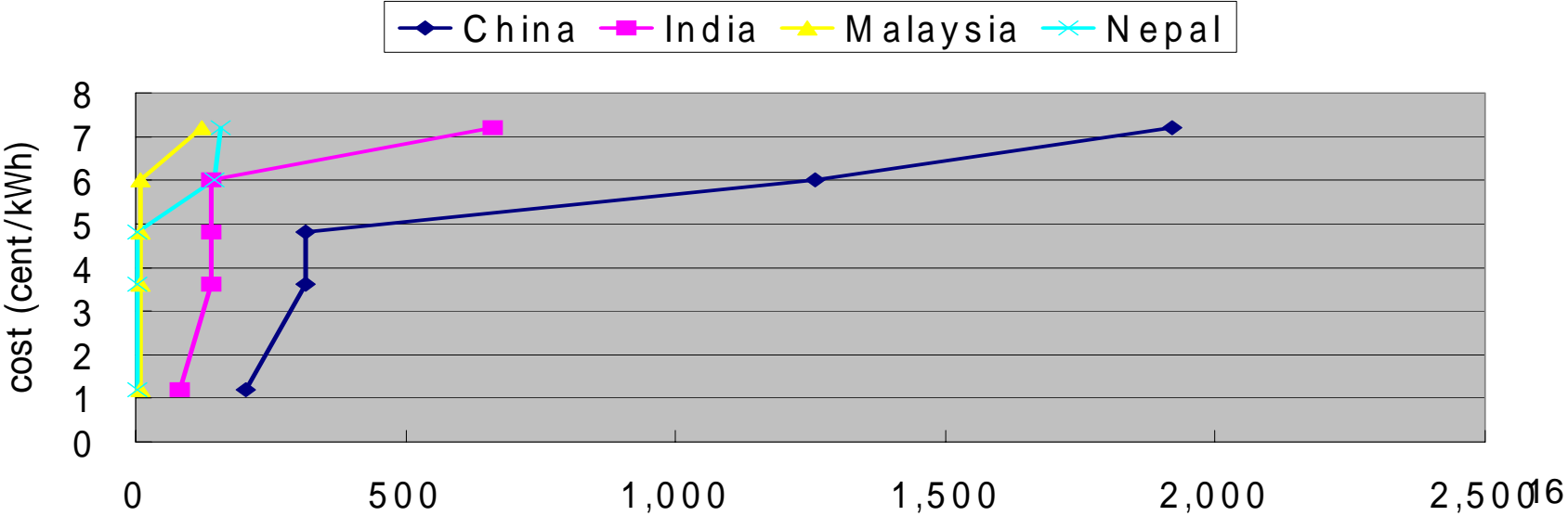
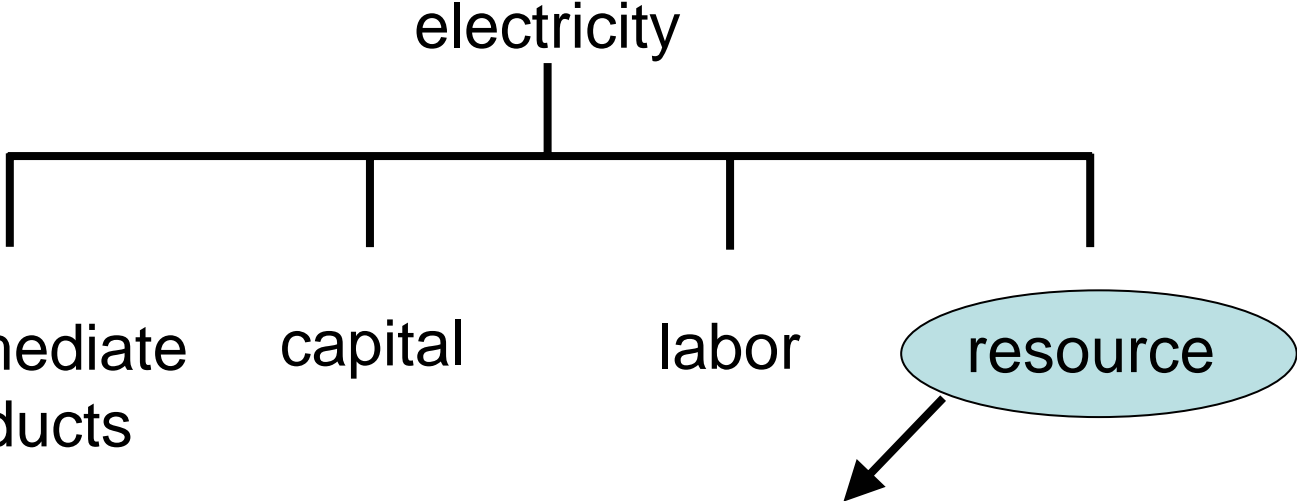
resource



# Bioenergy production

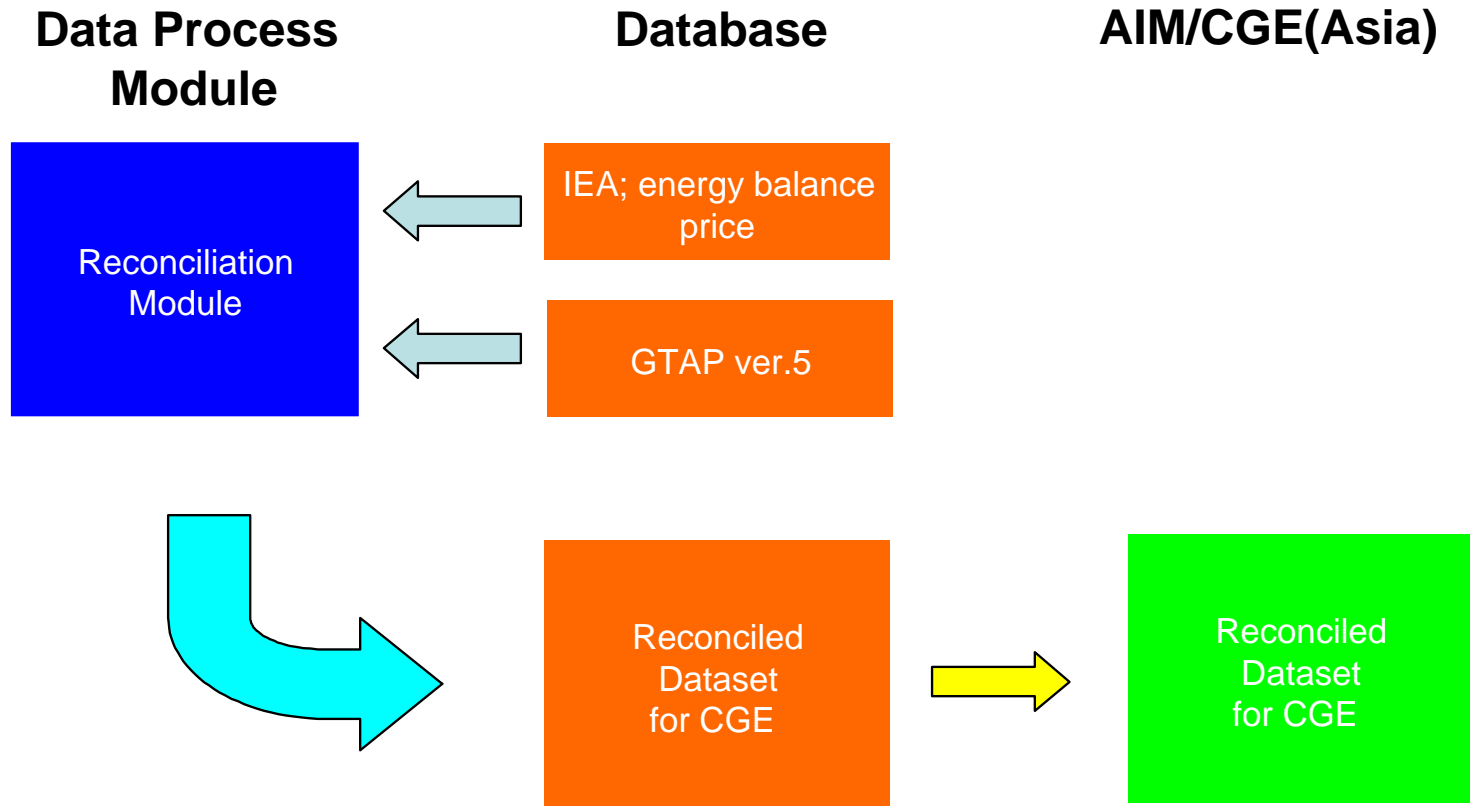


# Electricity generation (hydro power)

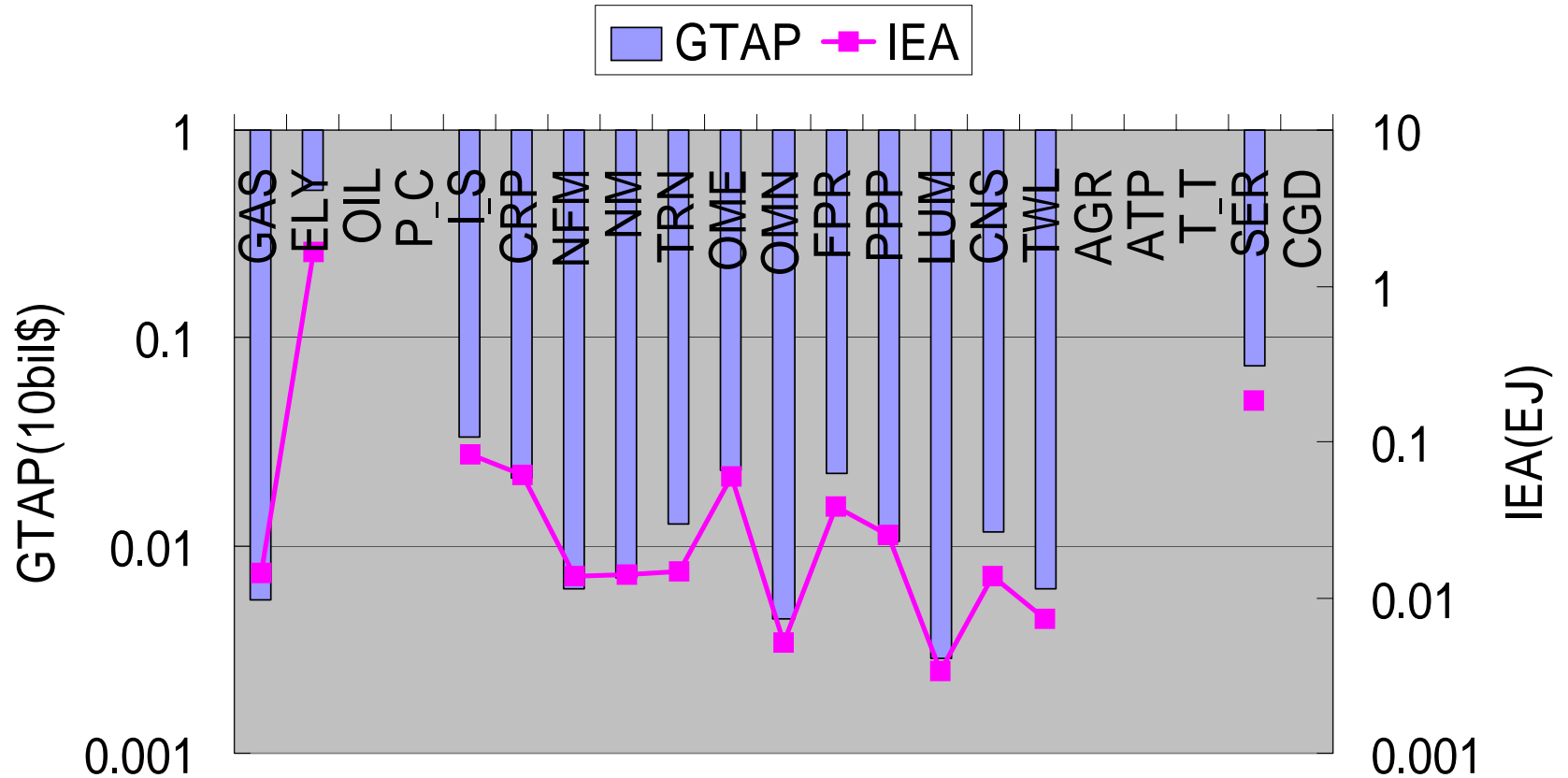




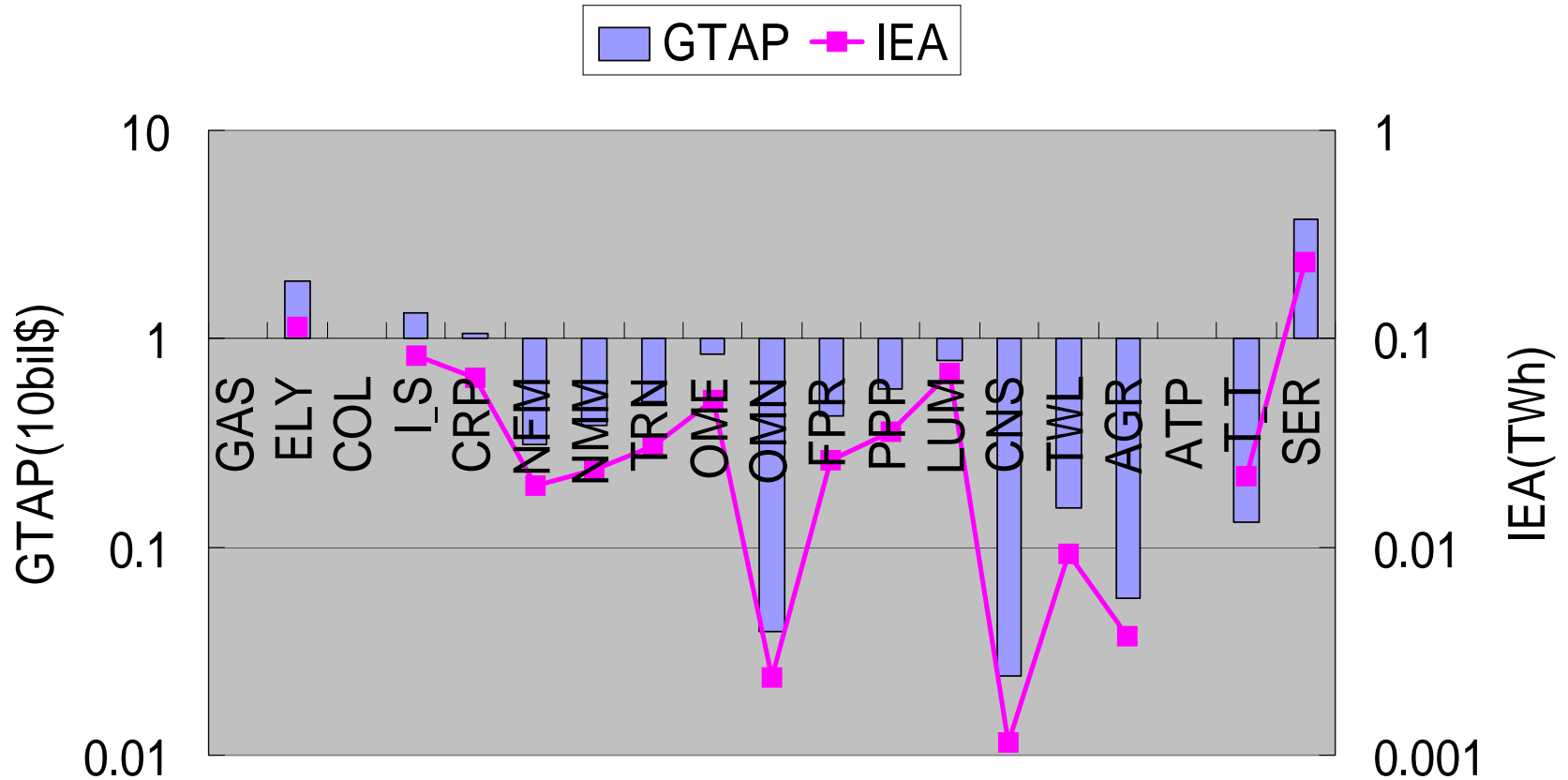
# Reconciliation Module for AIM/CGE(Asia) model



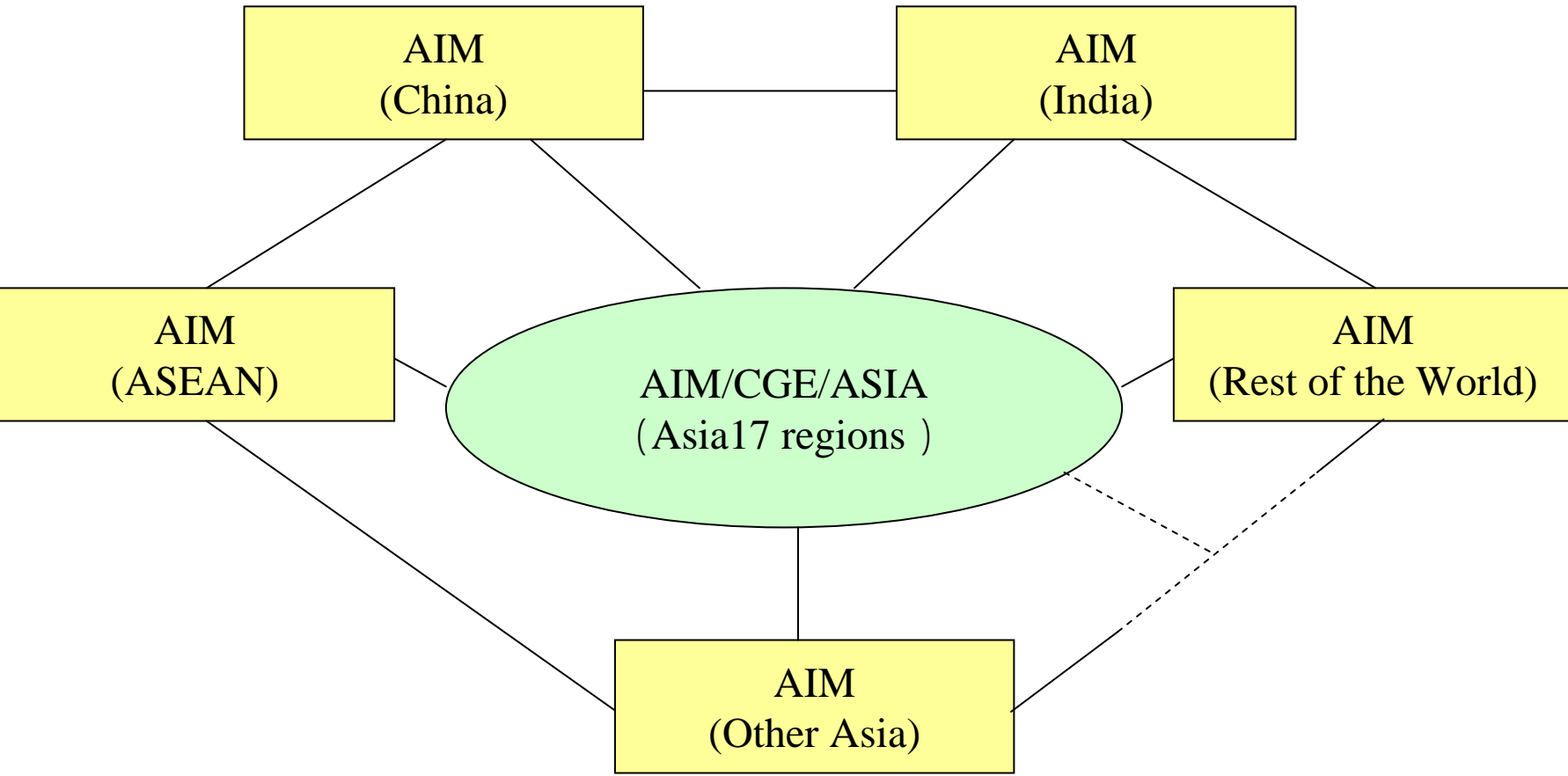
# Comparison between GTAP and IEA (Japan, Gas)



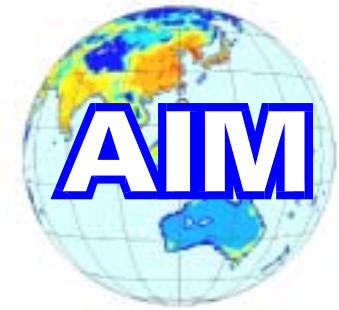
# Comparison between GTAP and IEA (Japan, Electricity)



# AIM/CGE(Asia) and AIM(country)



# Next steps



- **AIM/Trend**

- Development of biomass part, non-CO2 gas part
- More user-friendly interface

- **AIM/CGE(Asia)**

Develop 1<sup>st</sup> version

- Collecting and modifying energy data
- Monetary balance and physical balance
- Including economic characteristics (ex. failure of market, unemployment)
- Technology description (ex. induced technology)