

AIM-Trend Model

-communication tool to enhance discussions and prospect future situation in each Asian-Pacific country-

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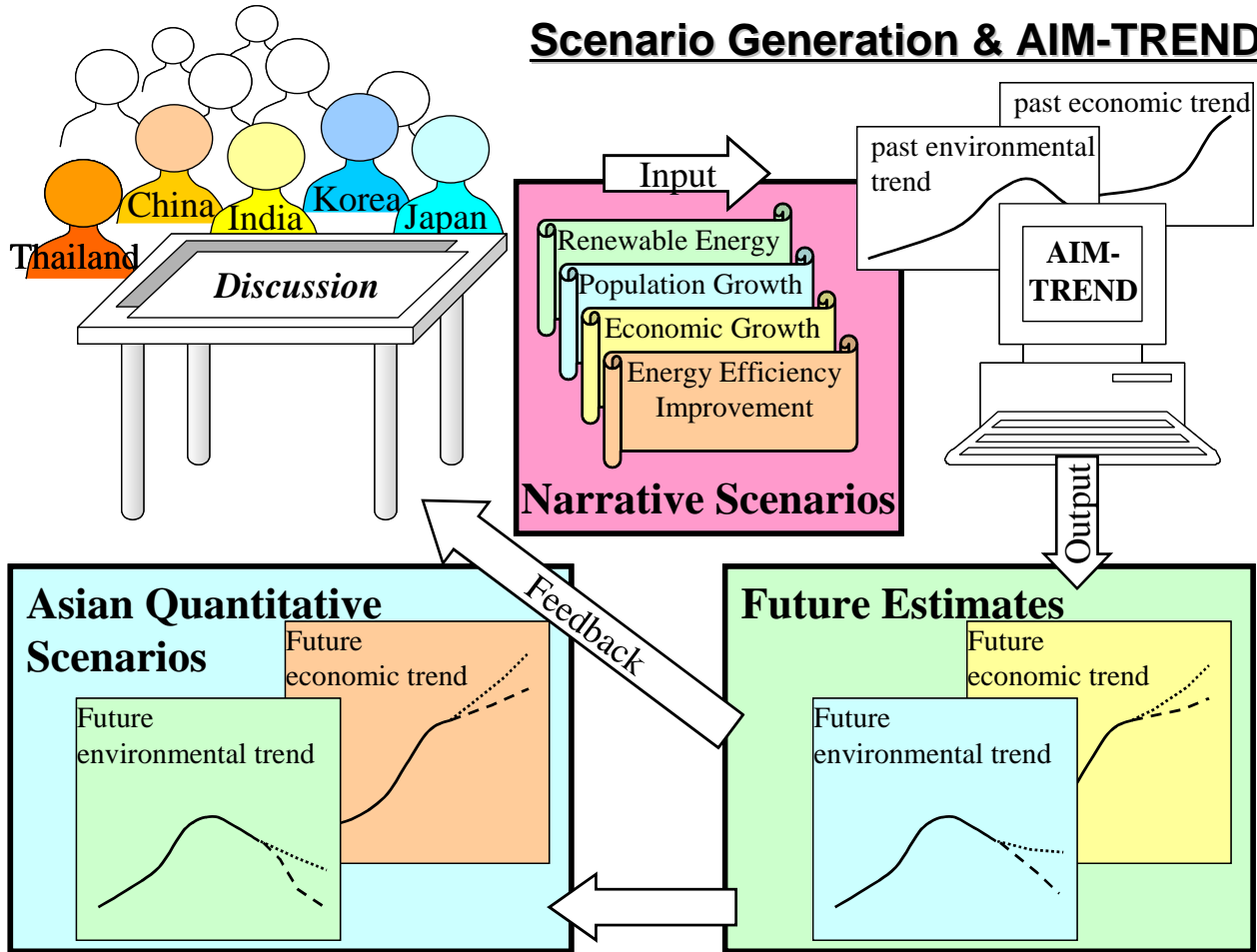
The 6th AIM International Workshop; 27-28, March 2001

National Institute for Environmental Studies, Tsukuba, Japan

Concept of AIM-Trend model

- Prospect of economy, energy and environmental situation in each Asian-Pacific country
- Communication tool to enhance discussions between scientists, government, and so on
- Simple model structure and easy handling
- Collect necessary data for development of AIM-CGE model

Scenario Generation & AIM-TREND



Procedure of communication

Framework

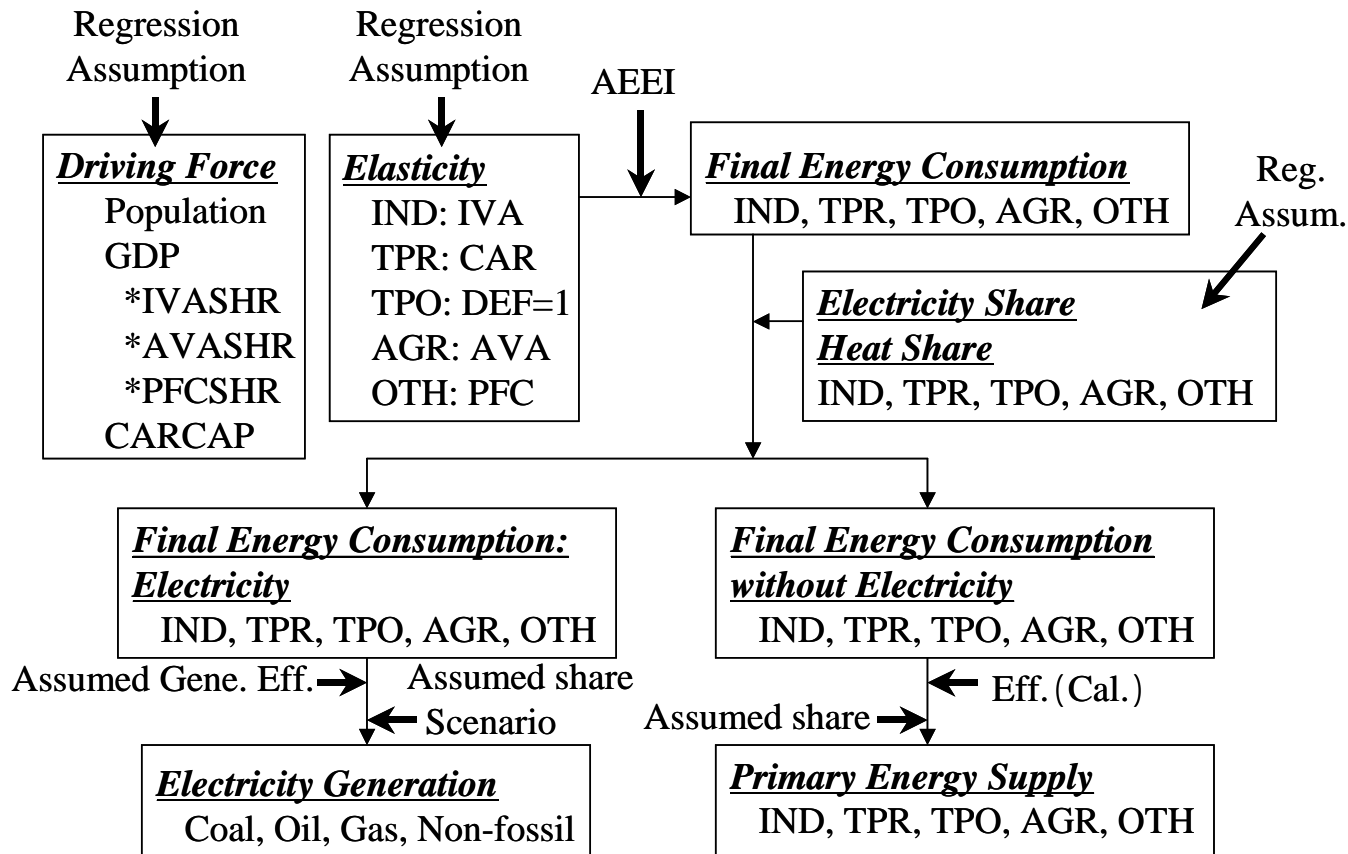
- target year: 2032 (“Rio+10”+30)
- region : each Asian-Pacific country
- item : economy (GDP, GDP share ...)
energy (demand, supply)
environment (gases, water ...)
- type : regression model
- language : Microsoft Excel Macro, VBA

Database

- Economy: WB, ADB ...
- Energy : IEA energy balance ...
- Environment : IPCC, UN ...

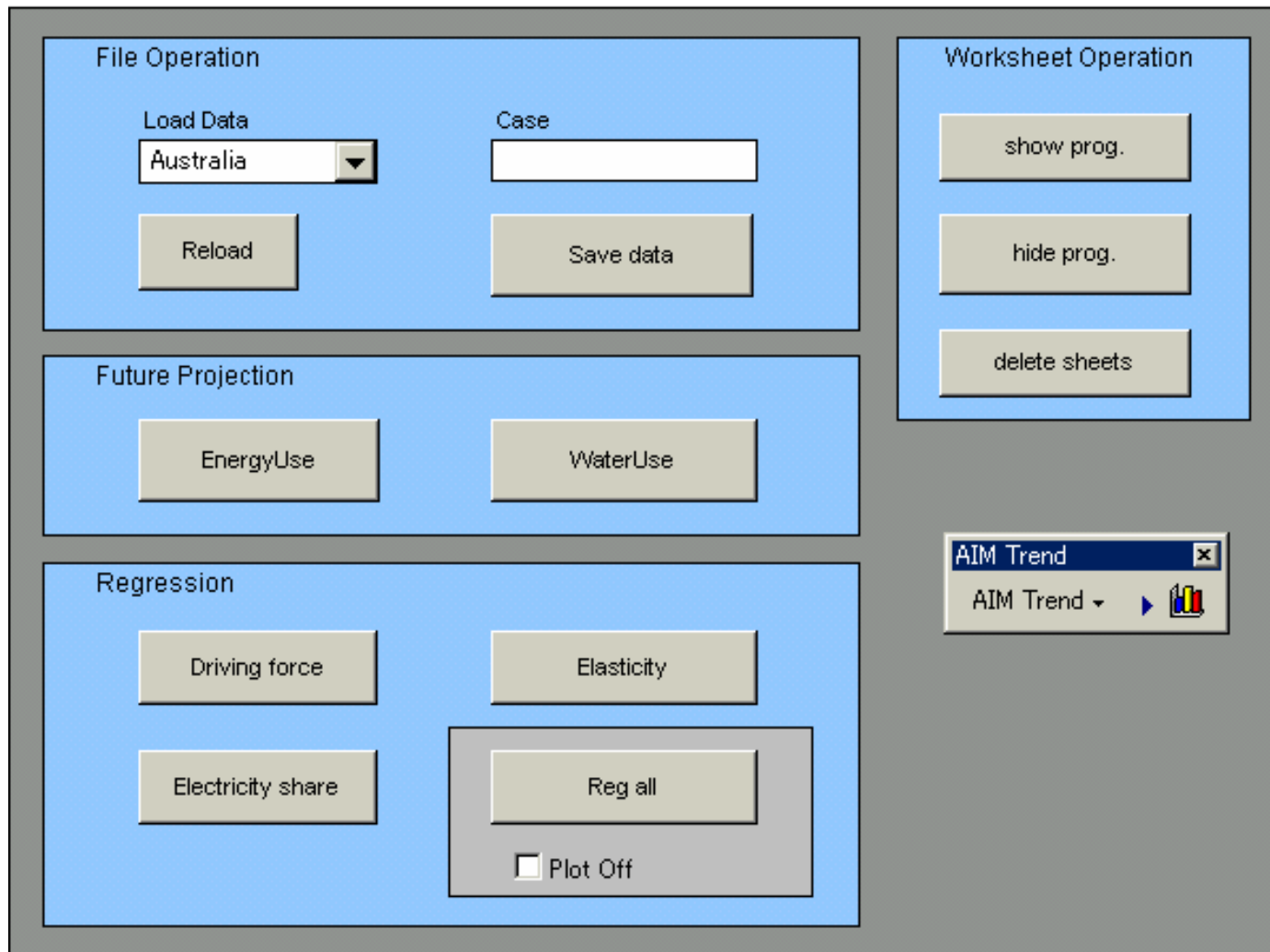
Government, institute...of each country

Calculation flow



IVA: Industry Value Added
 AVA: Agriculture Value Added
 PFC: Private Final Consumption
 CARCAP: Car holders per capita

IND: Industry
 TPR: Transport on road
 TPO: Other transport
 AGR: Agriculture
 OTH: Other

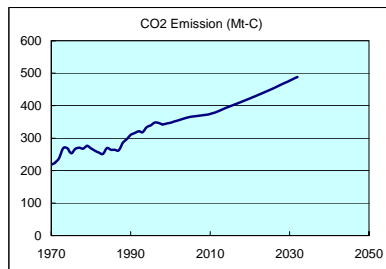
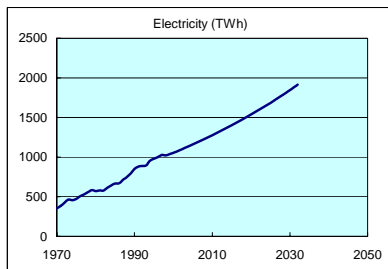
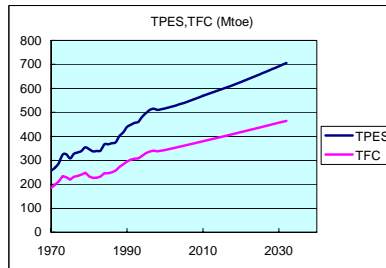
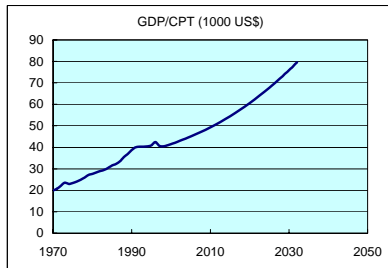
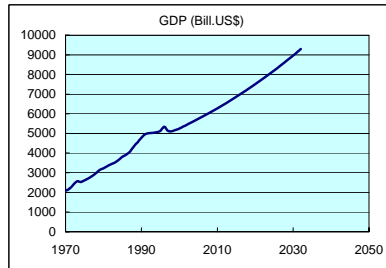
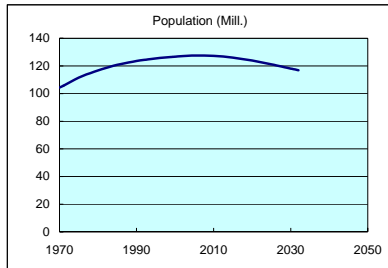


Procedure of communication

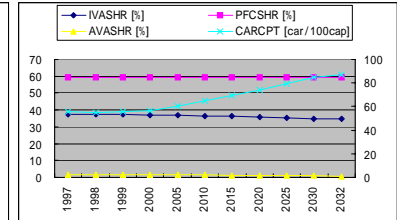
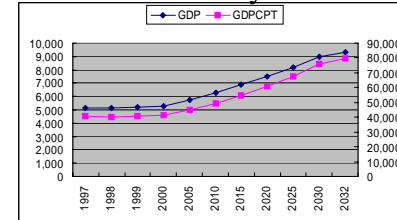
Simulation results of Japan

Overview

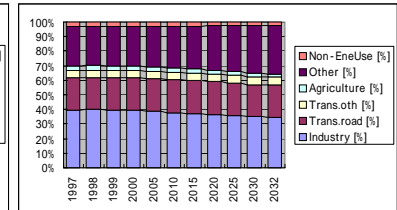
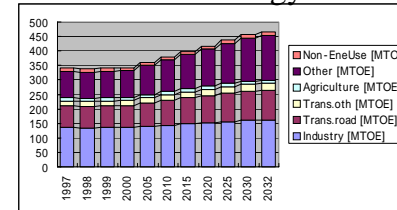
Country: Japan



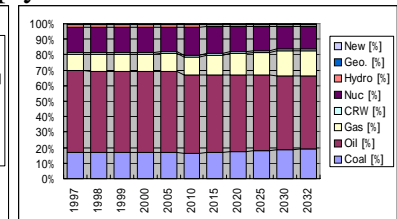
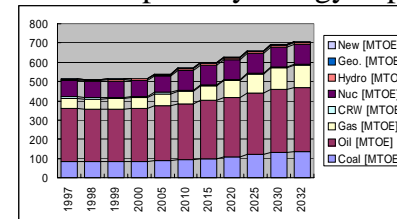
Trend of economy



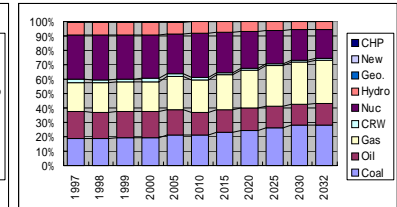
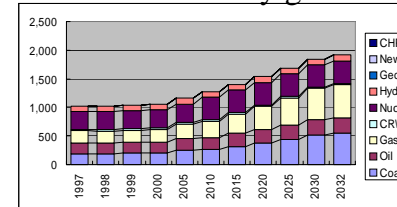
Trend of final energy demand

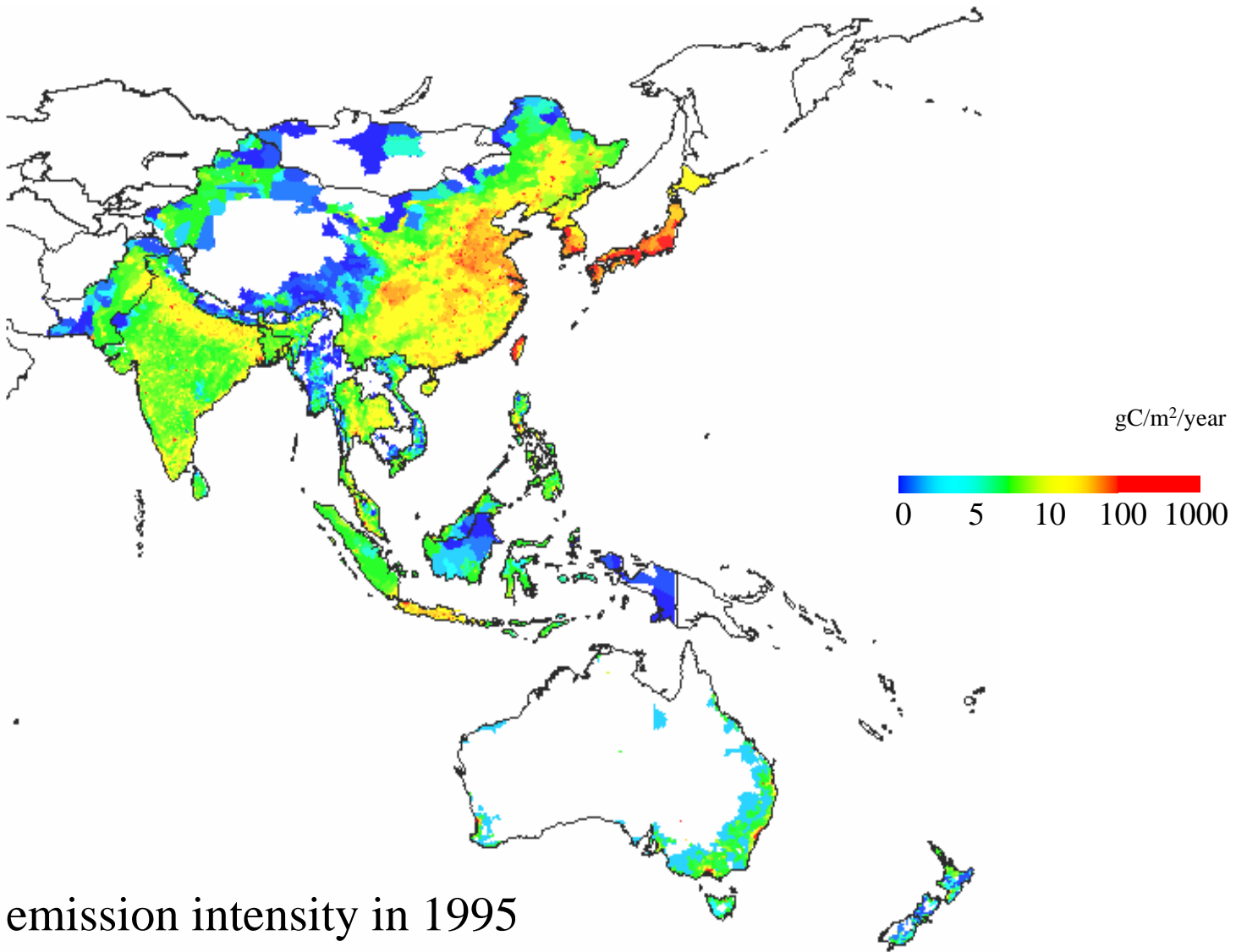


Trend of primary energy supply

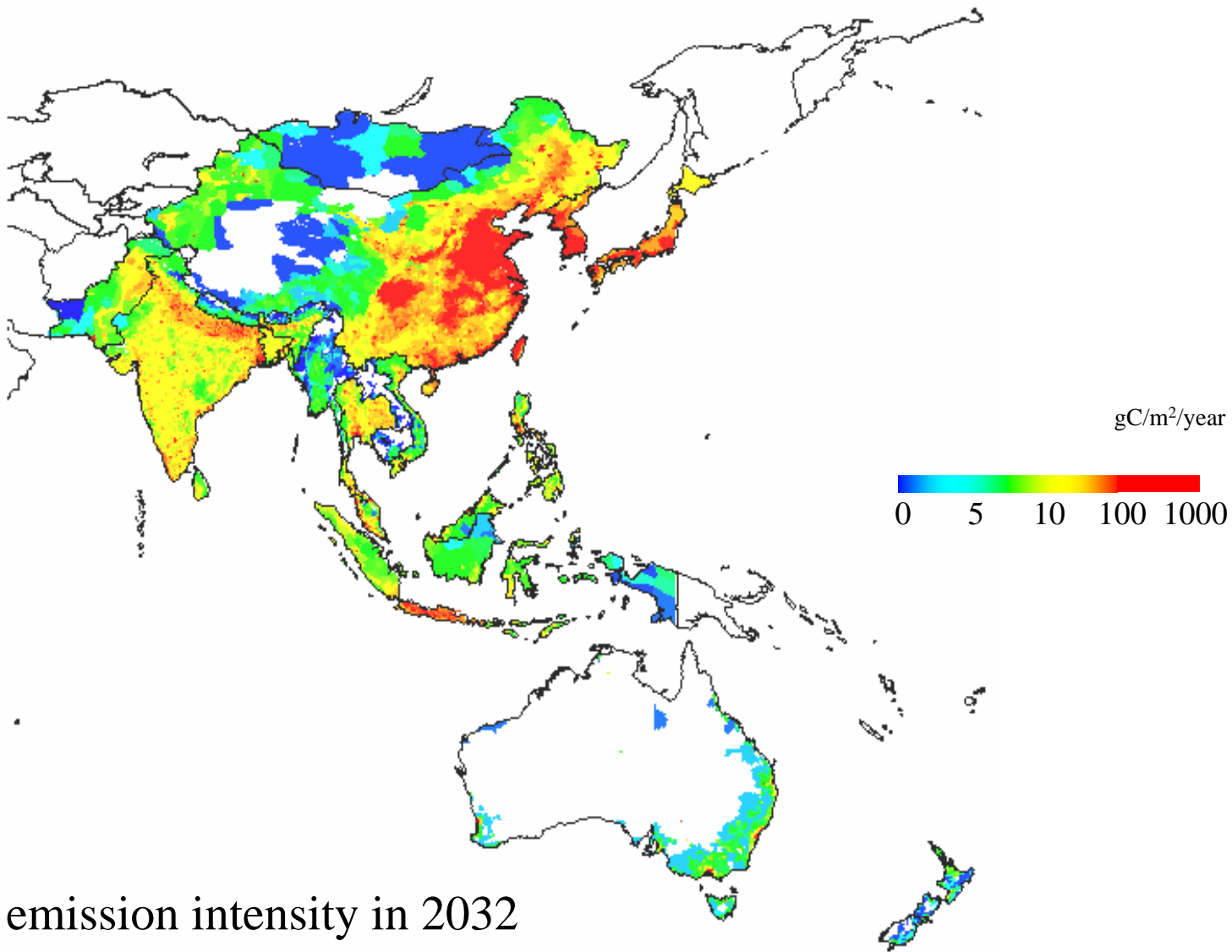


Trend of electricity generation

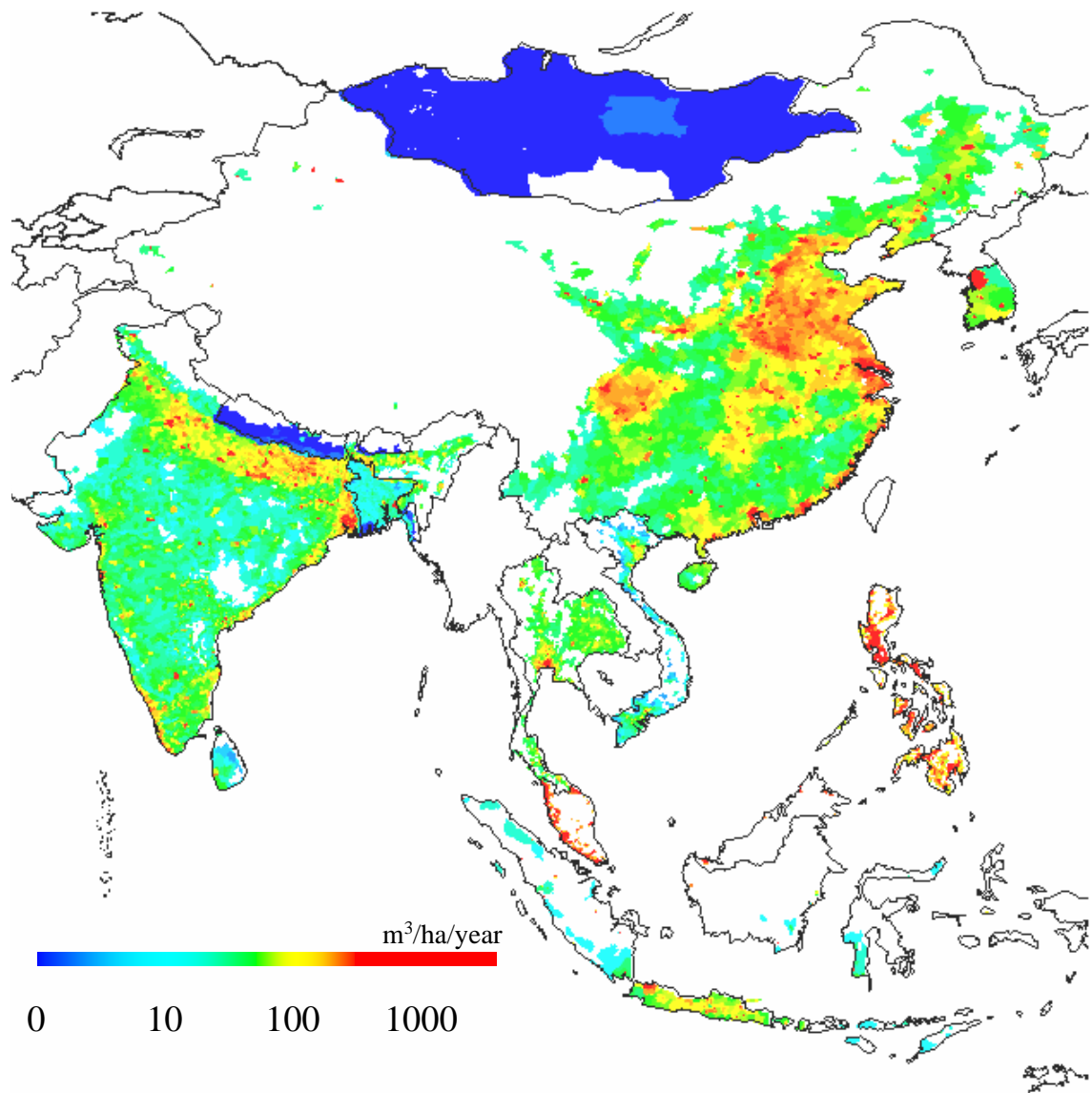




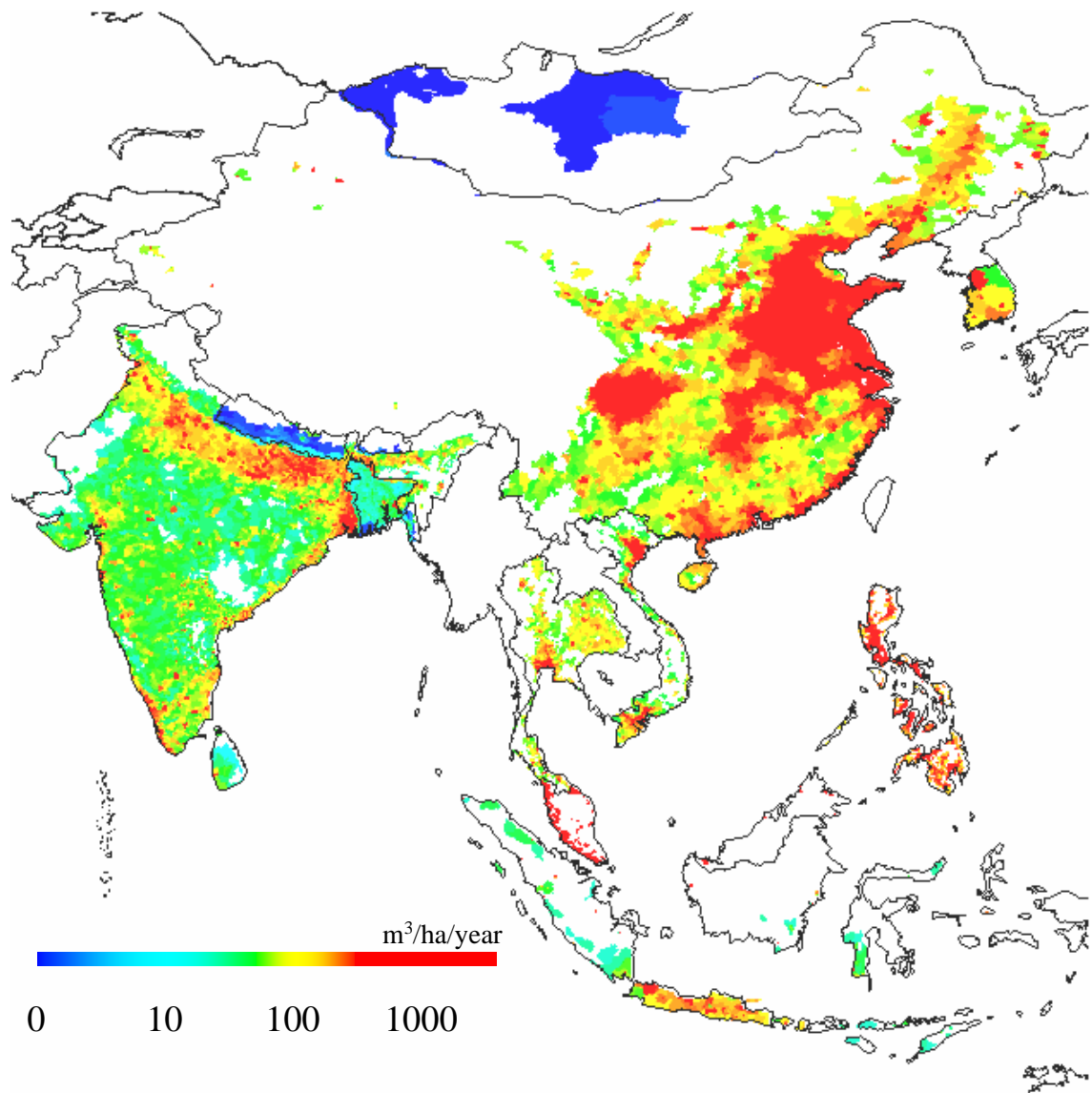
CO2 emission intensity in 1995



CO2 emission intensity in 2032



Industrial water withdraw intensity in Asia in 1990



Industrial water withdraw intensity in Asia in 2030

Next stage of AIM-Trend model

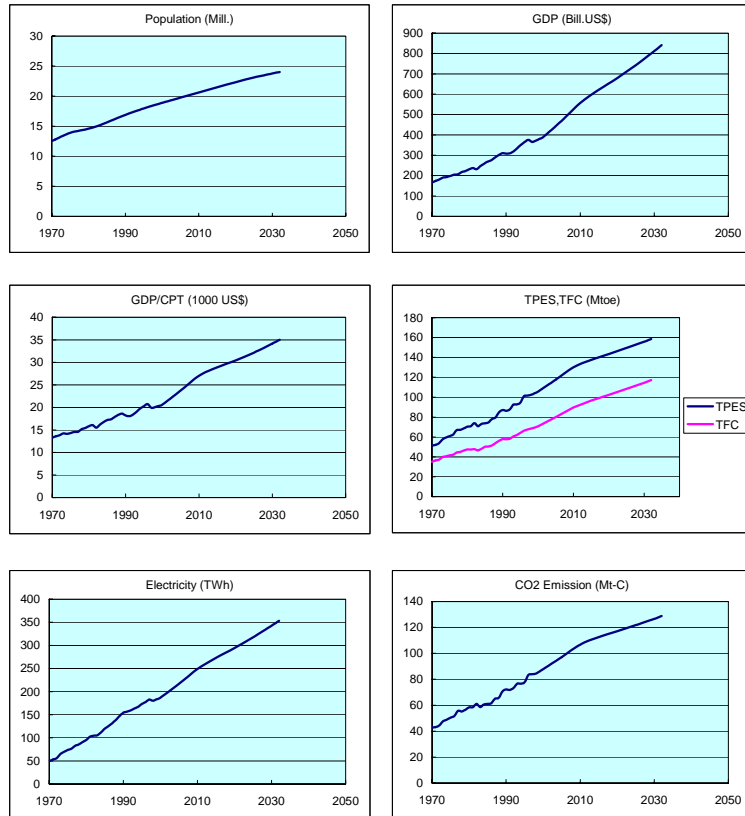
- Modify the results with communication
- Develop policy scenario and innovative technology scenario
- Develop AIM-CGE model

AIM-CGE model

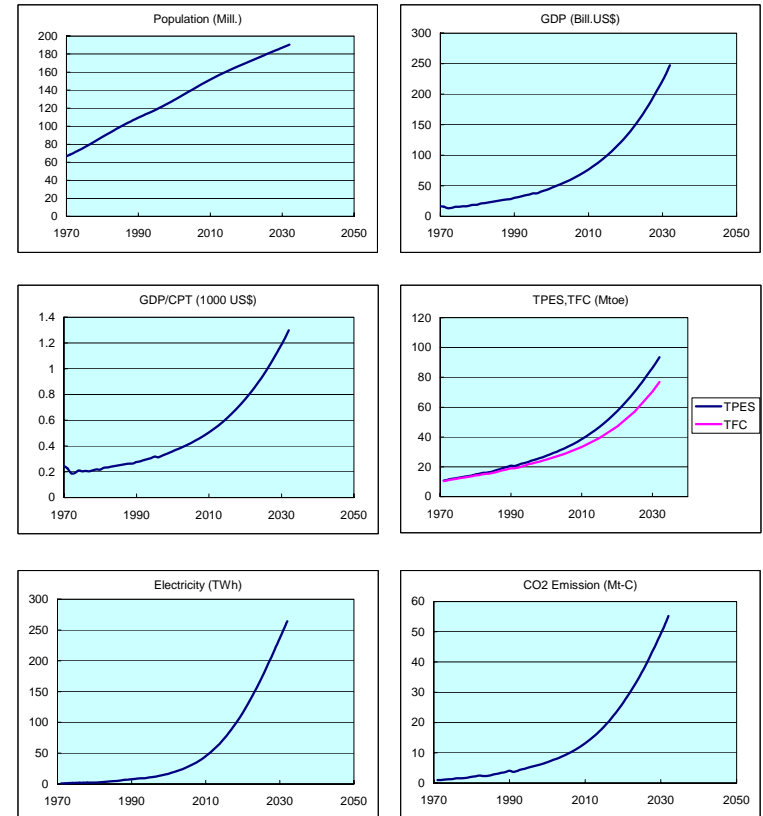
- Focus on Asian-Pacific country
- Combine I/O table and energy balance table like SGM model
- Consider world trade like GTAP

Simulation results for each Asian-Pacific country (1)

Country: Australia

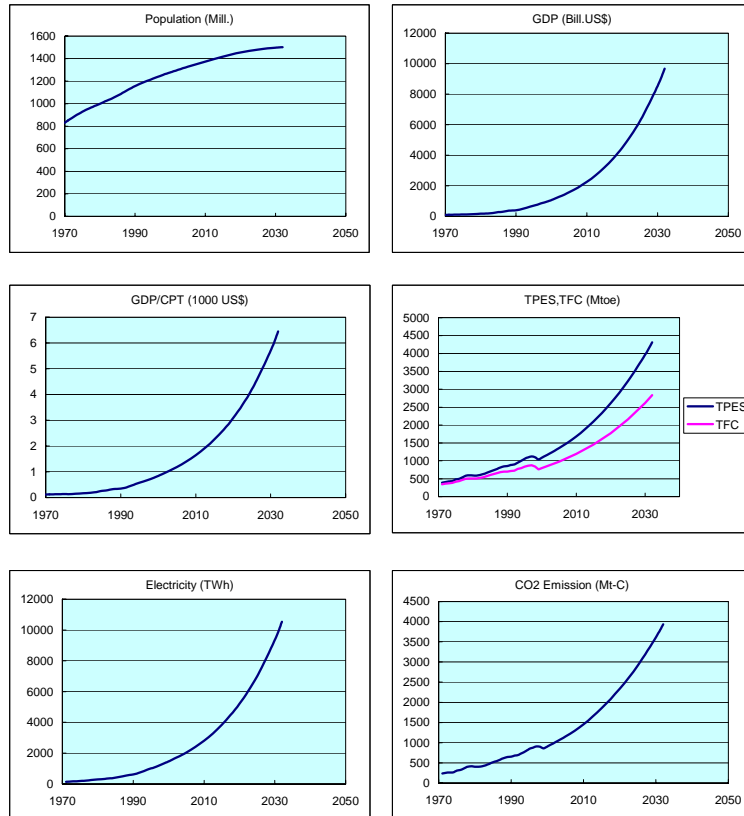


Country: Bangladesh

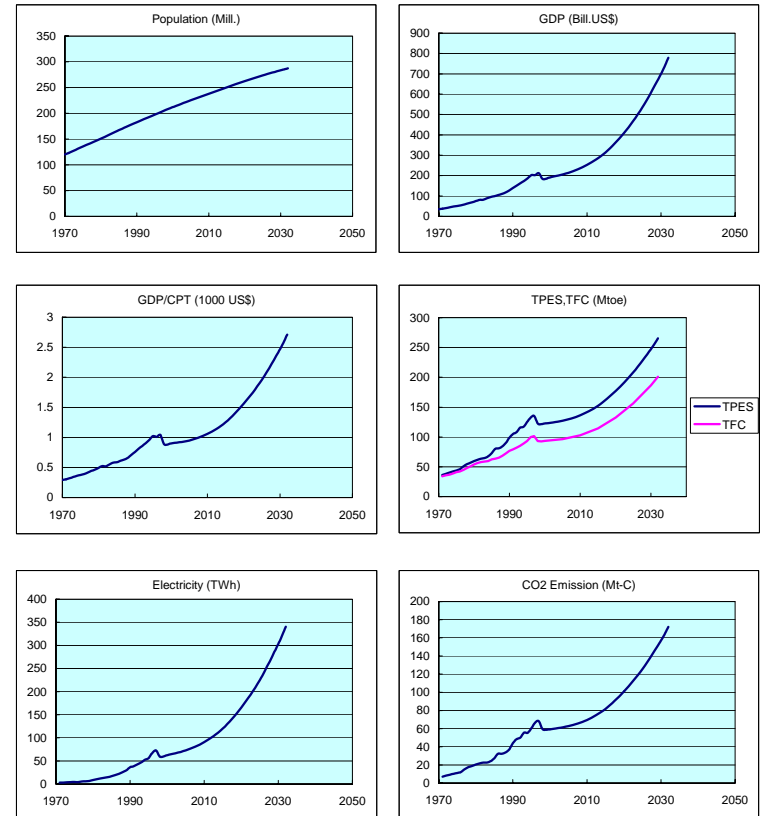


Simulation results for each Asian-Pacific country (2)

Country: China

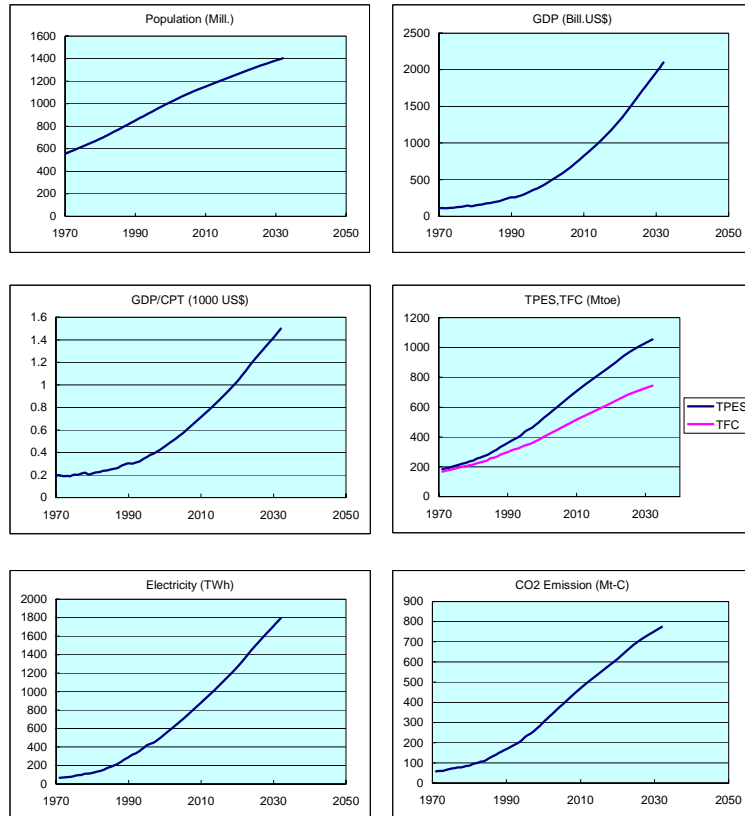


Country: Indonesia

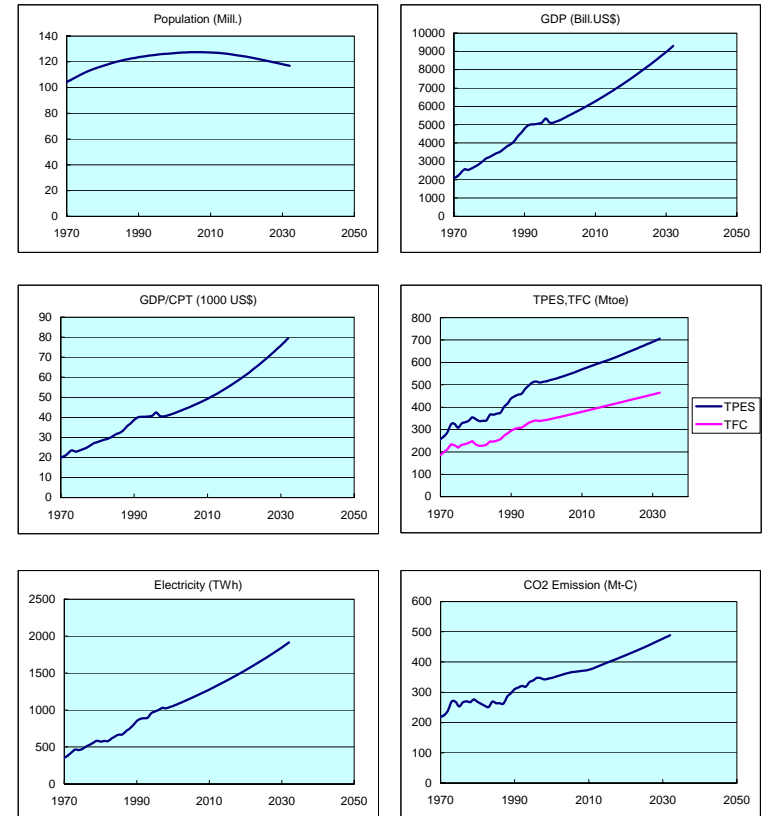


Simulation results for each Asian-Pacific country (3)

Country: India

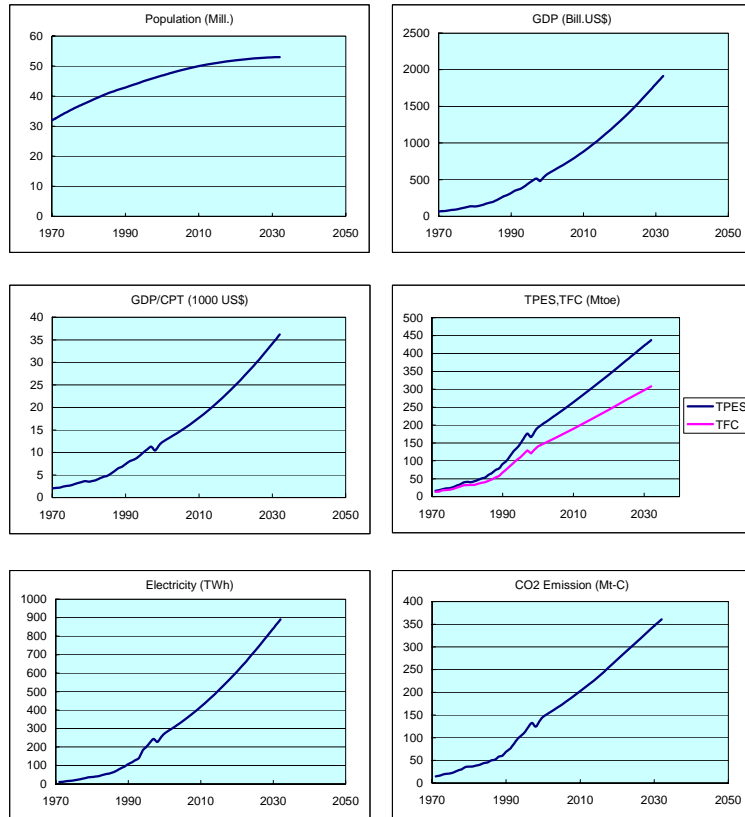


Country: Japan

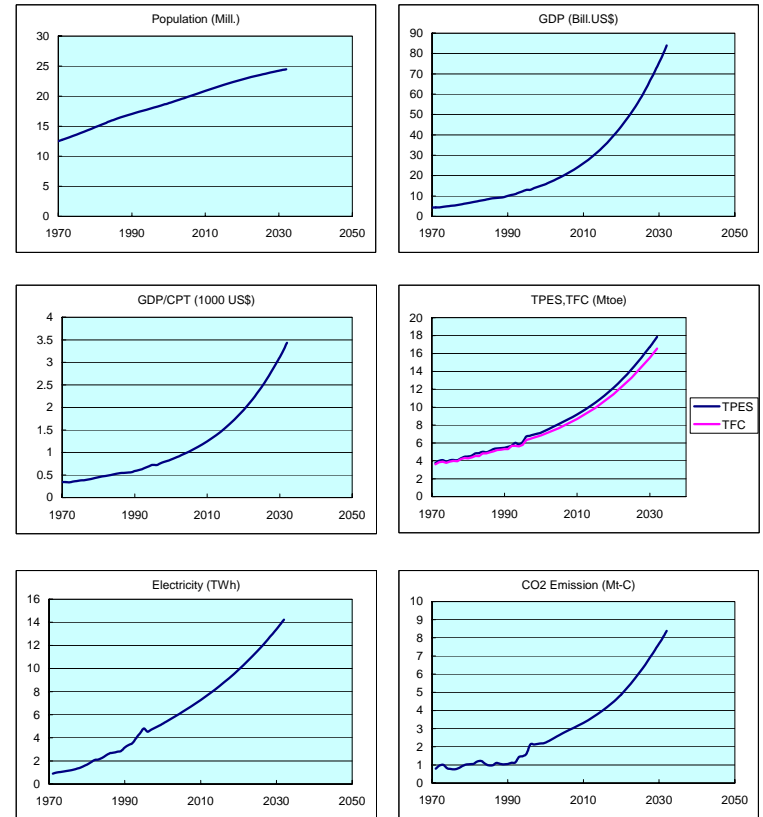


Simulation results for each Asian-Pacific country (4)

Country: Korea,Rep

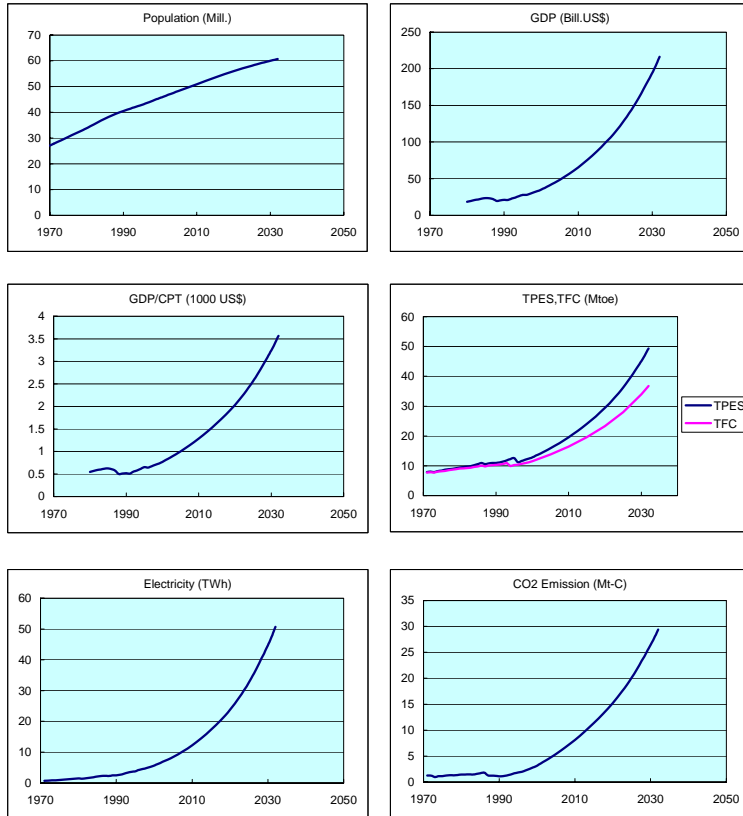


Country: Sri Lanka

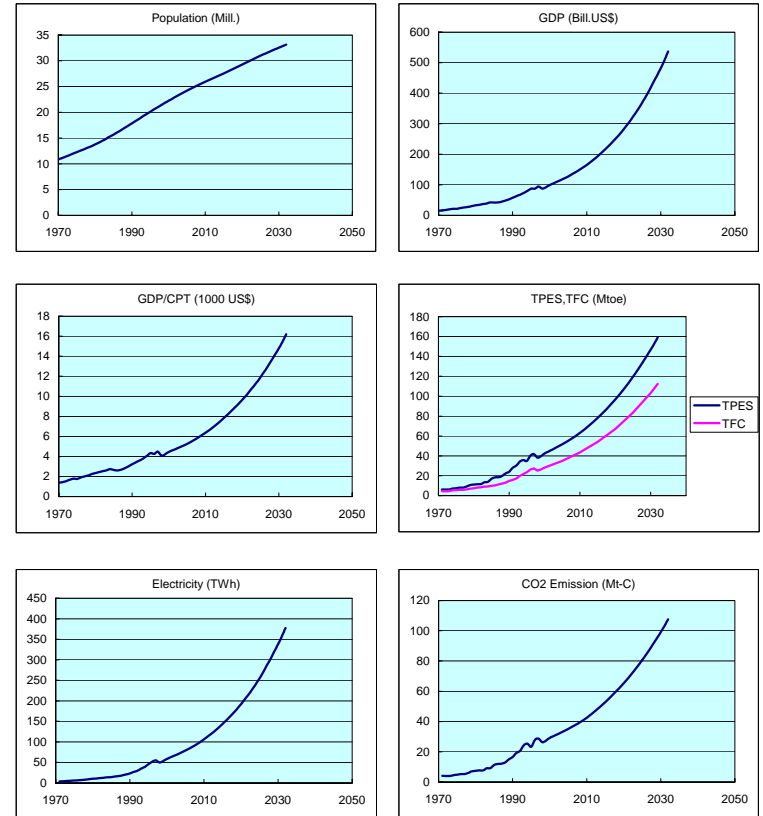


Simulation results for each Asian-Pacific country (5)

Country: Myanmar

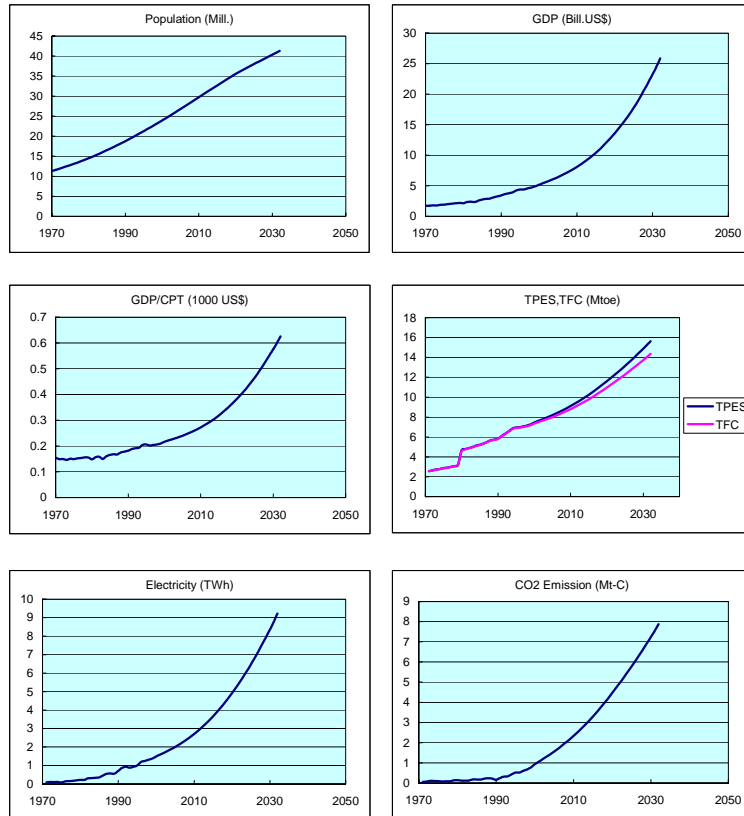


Country: Malaysia

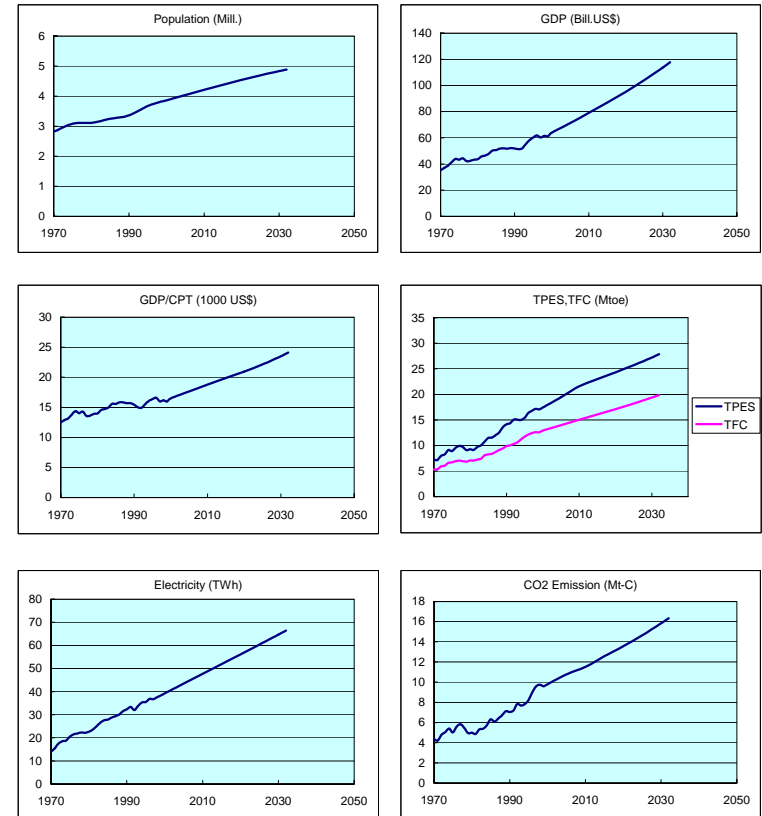


Simulation results for each Asian-Pacific country (6)

Country: Nepal

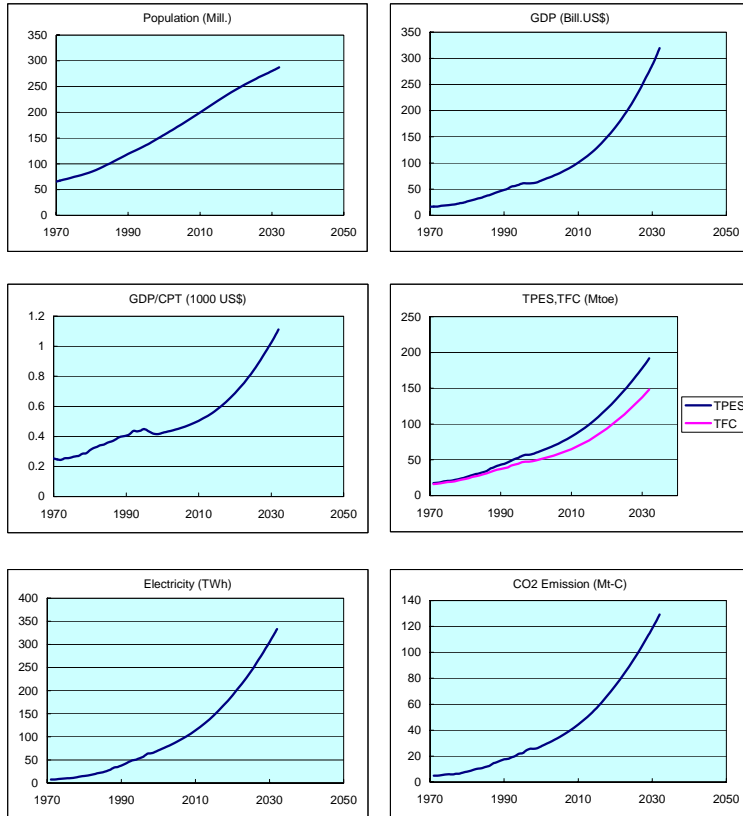


Country: New Zealand

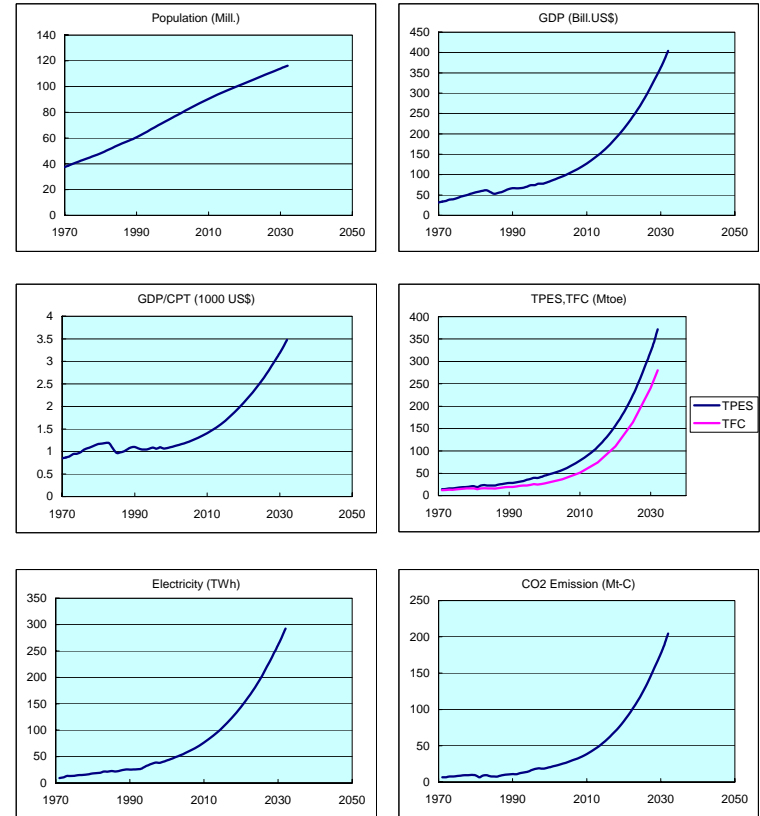


Simulation results for each Asian-Pacific country (7)

Country: Pakistan

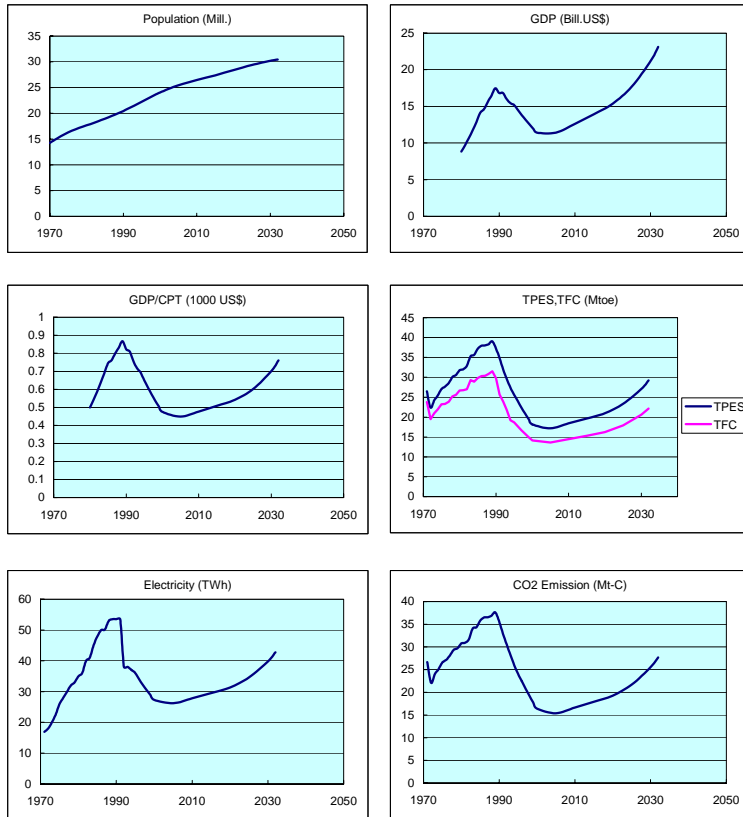


Country: Philippines

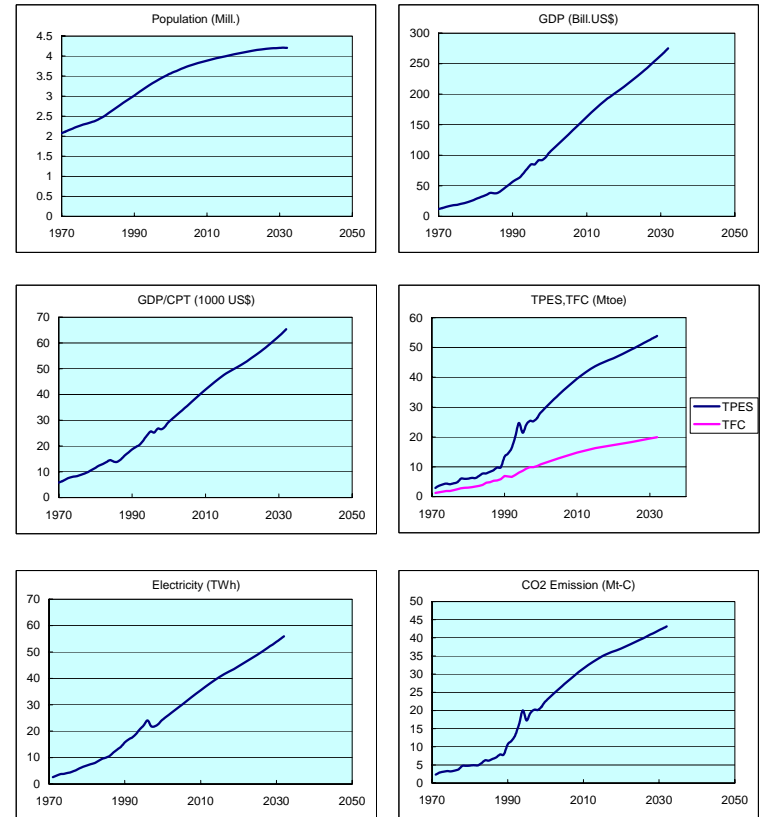


Simulation results for each Asian-Pacific country (8)

Country: Korea, Dem

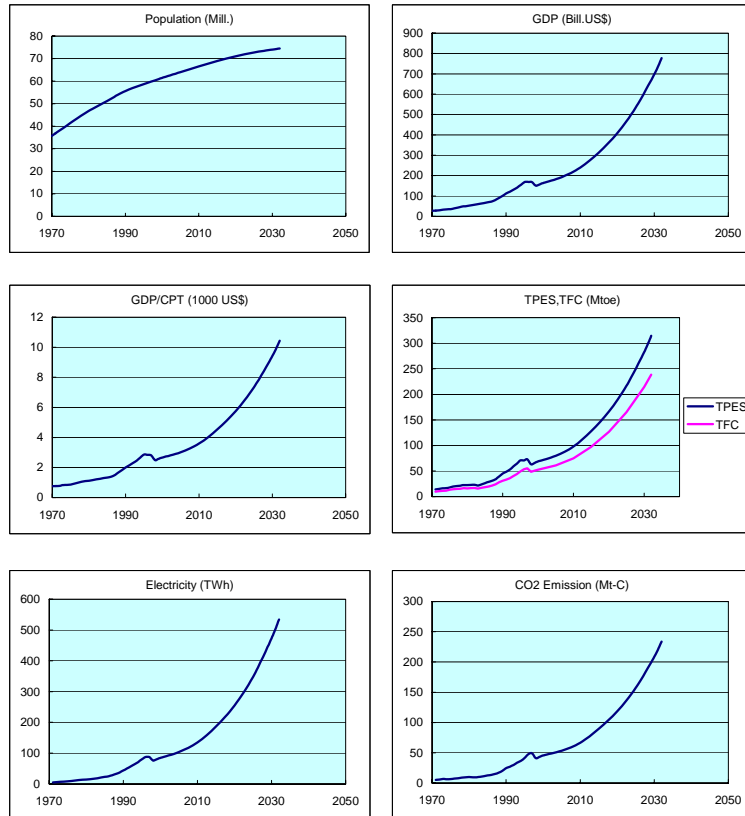


Country: Singapore

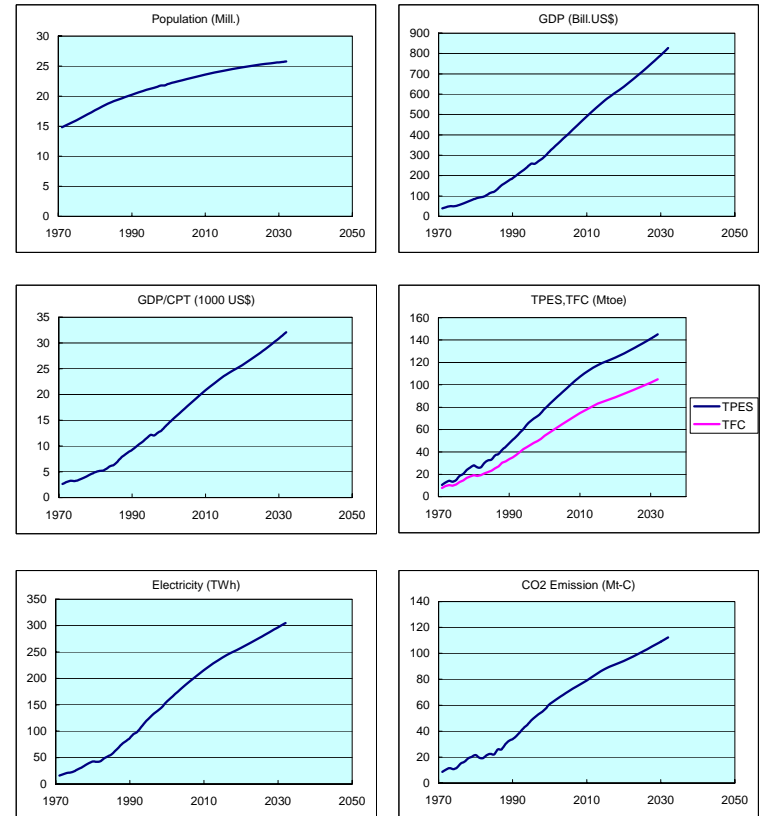


Simulation results for each Asian-Pacific country (9)

Country: Thailand



Country: Taiwan



Simulation results for each Asian-Pacific country (10)

Country: Vietnam

