

The 7th AIM International Workshop

**March 15-17, 2002
NIES, Tsukuba, Japan**

**Activities in the Fiscal Year 2001 in Korea
- Emission Inventory and Modelling in Korea -**

**Tae Yong Jung
IGES, Japan**

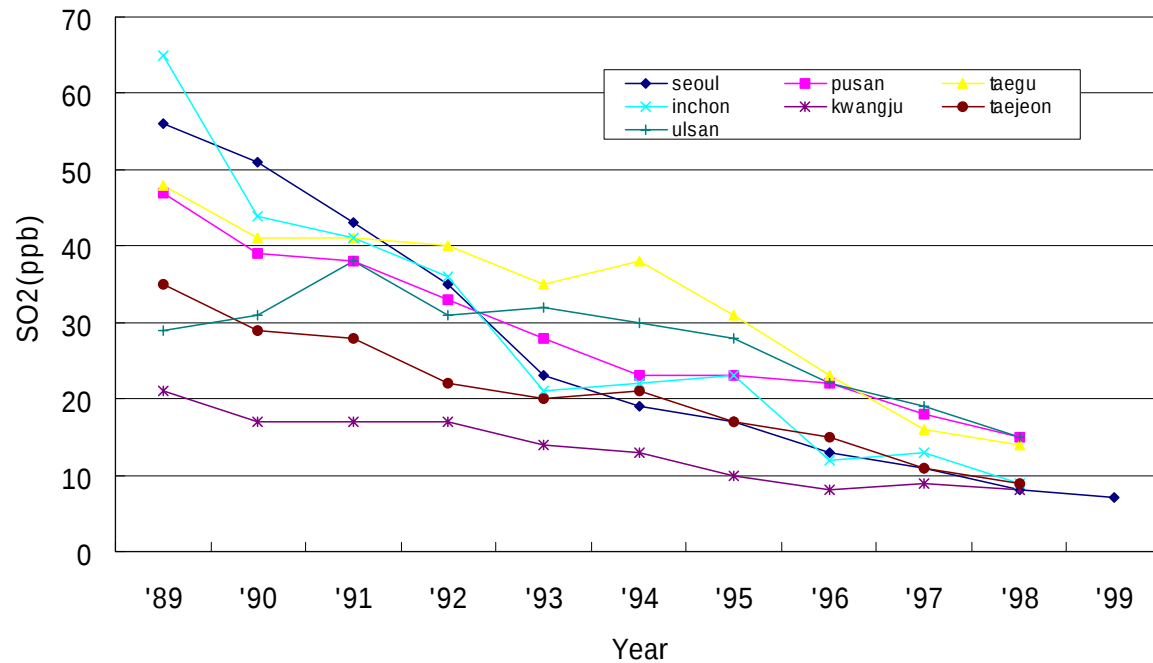
**Dong Kun Lee/ Maki Mita
Sangmyung University, Korea**

**So Won Yoon
IGES, Japan**

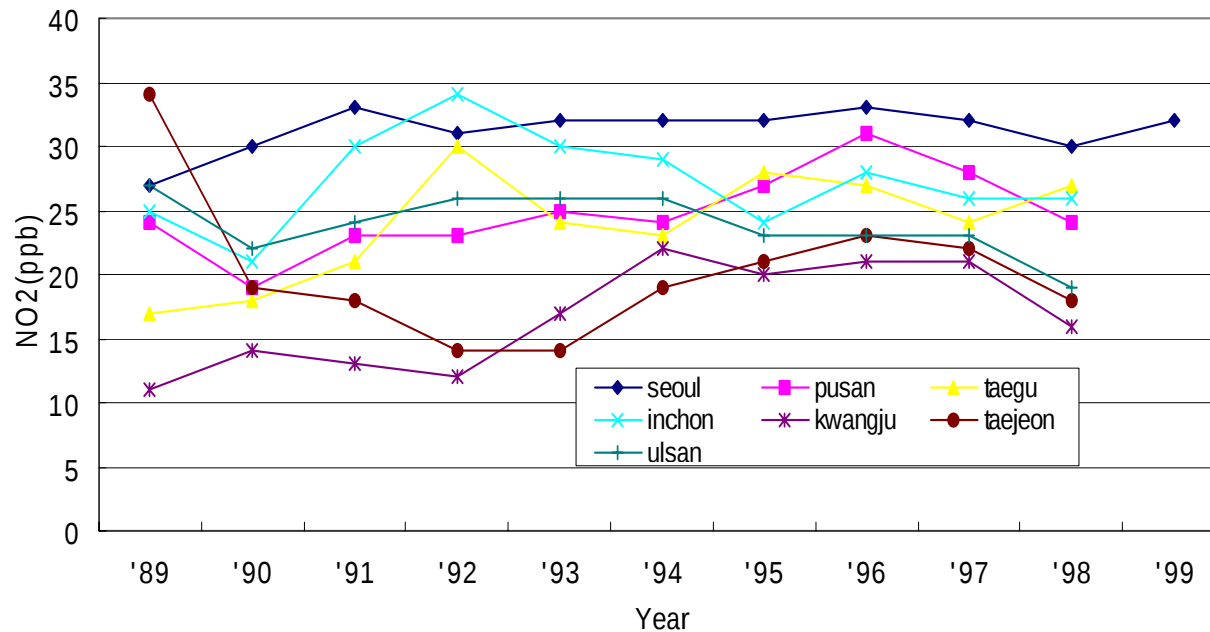
AIM/Local Coverage



SO₂ Concentration by Major Cities

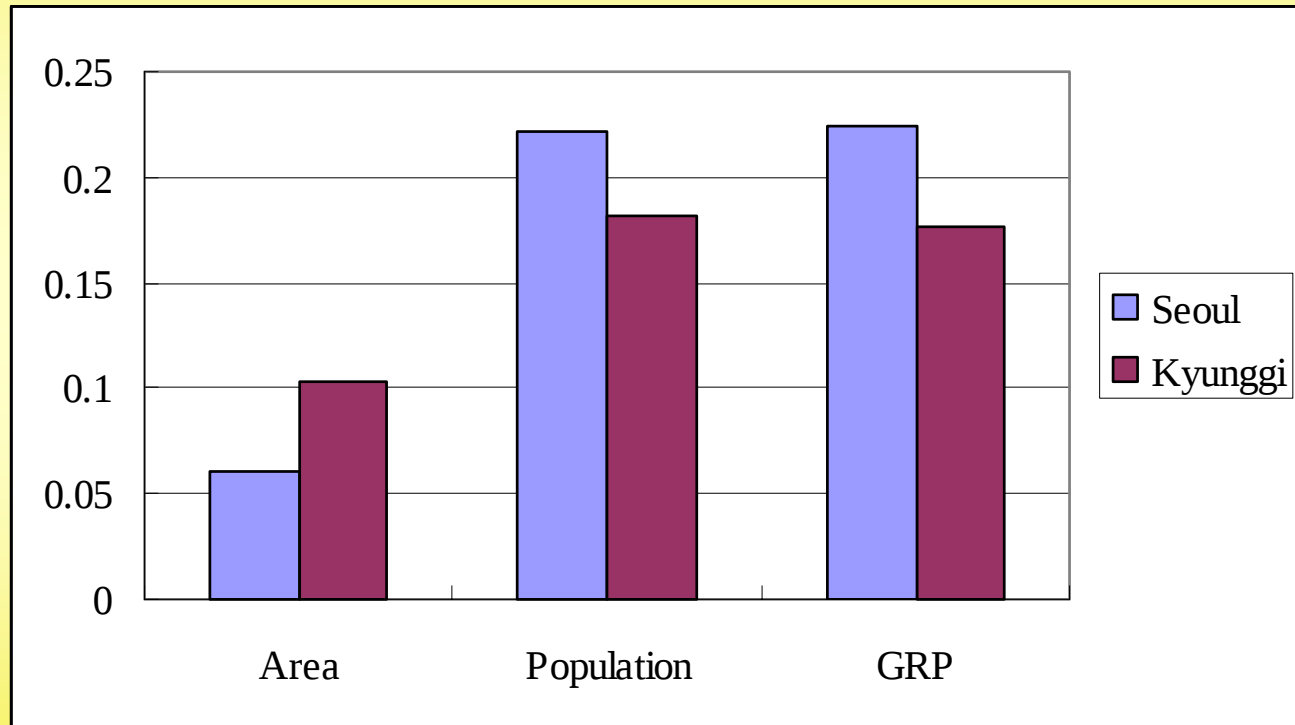


NO2 Concentration by Major Cities



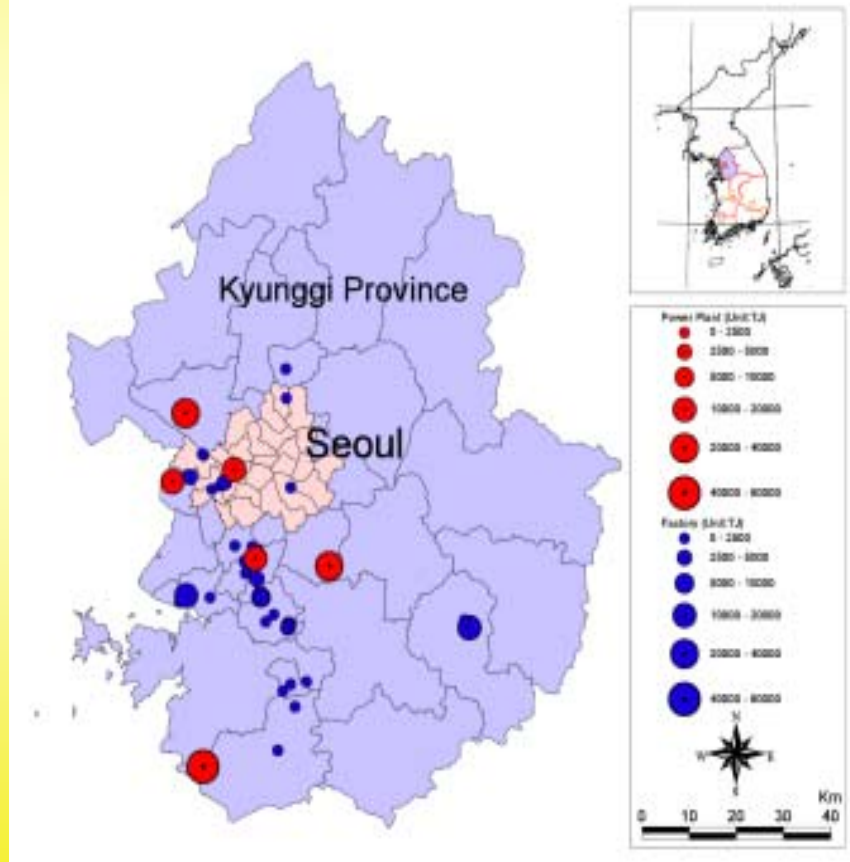
Coverage of Area

(Share of Seoul & Kyunggi Province)



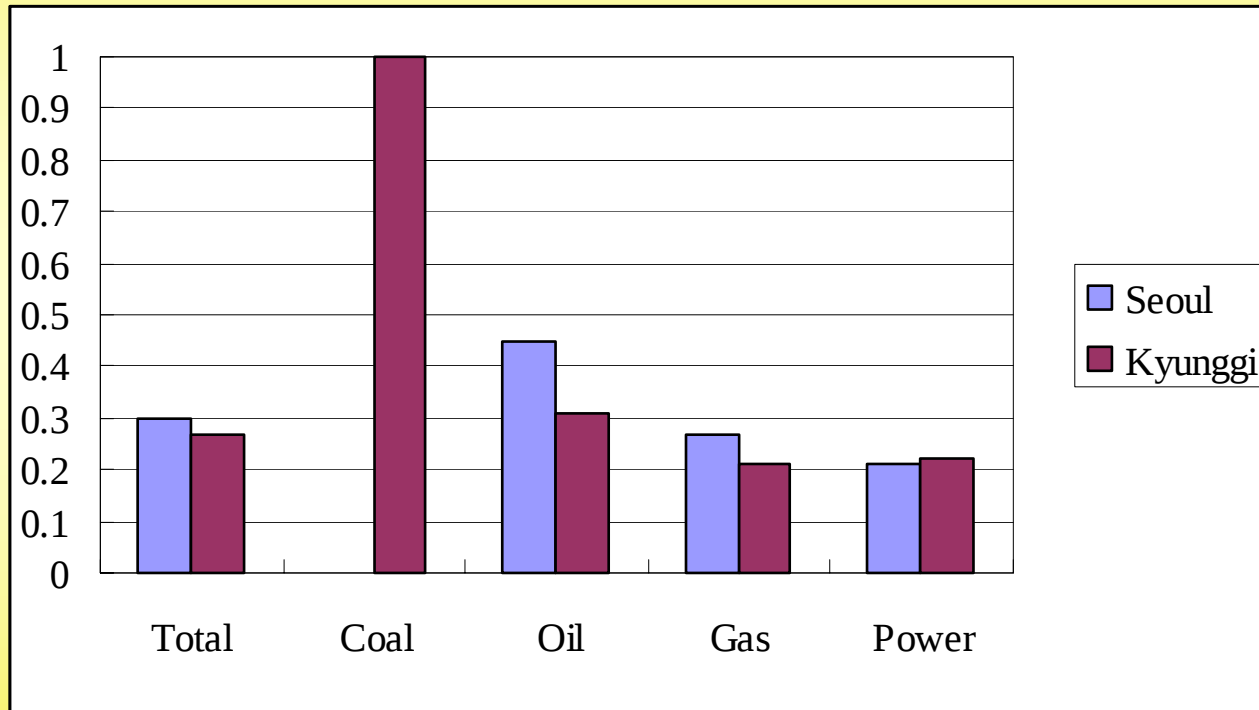
AIM/Local LPS

Large Point Source in Seoul and Kyunggi Province
(Energy Consumption)



Coverage of LPS (Energy)

(Share of LPS)



AIM/Local Database Construction

○Types of LPS

- **Power Plants (7): Oil and Gas Fired Power Plants**
- **Factories (33): Food & Beverage (8), Chemical (2), Rubber (1), Textile (4), Electric Machinery (6), Non-metal (2), Construction (1), Automobile (1), Pulp & Paper (9)**

○Types of Energy Services

- **Boiler**
- **Direct Heating**
- **Motor**
- **Self-Generation**

Further Studies (2001)

○AIM/Local Korea: Database Construction

- Initial Stage: Seoul + Kyunggi Province
- Next Stage: To Cover All Provinces
- Data Verifications

○AIM/Local Korea: GAMS Application

○AIM/Local Korea: Scenario Development

○AIM/Local Korea: Policy Analysis

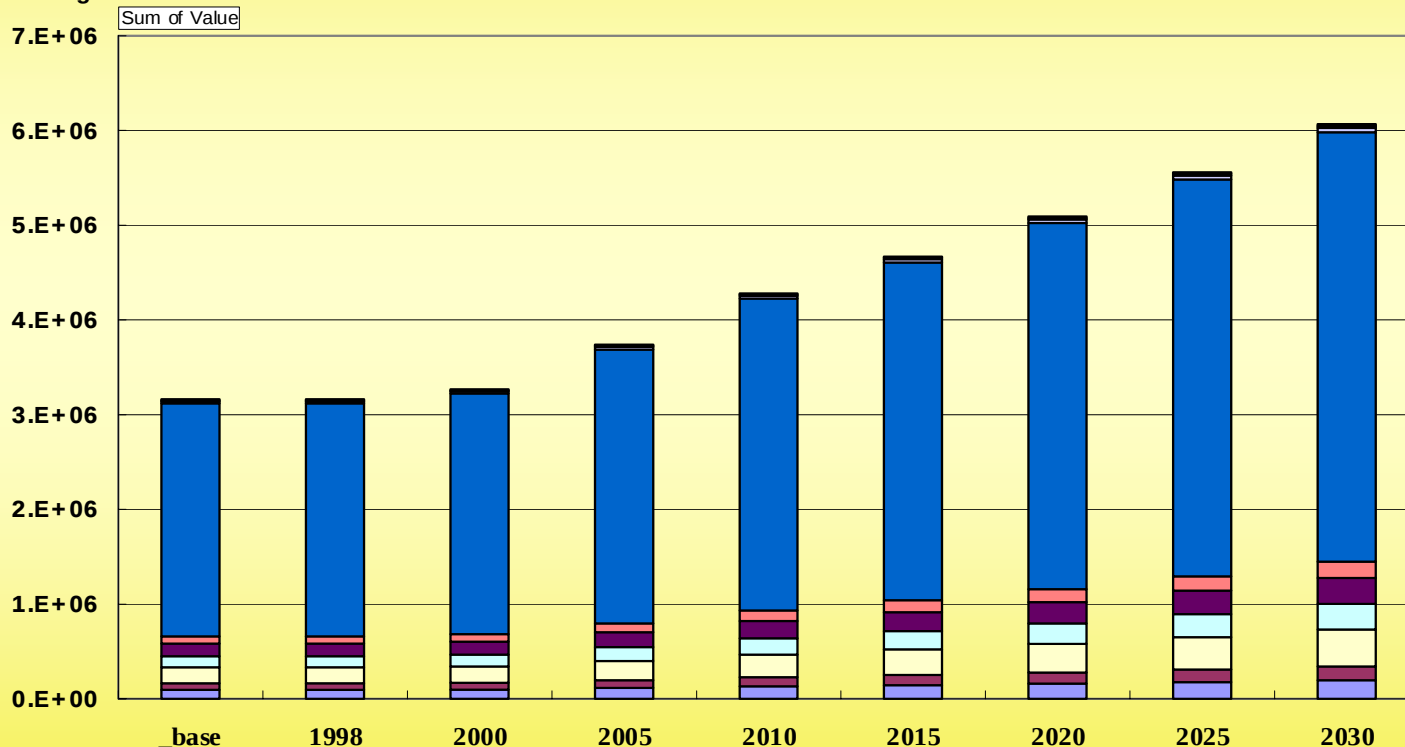
○Updating Database/Application

BAU Simulation Results (1)

CO2 (LPS: Seoul & Kyunggi Province)

Kind EMS LPS_Area LPS Item CO2 Removal (ㄱ ㄴ) LPS (ㄱ ㄴ) Region (ㄱ ㄴ)

Million gram



Sector

CHEMICAL TEXTILE ELECTRONIC PULP FOOD NONMETAL POWER CAR CONSTRUCTION RUBBER

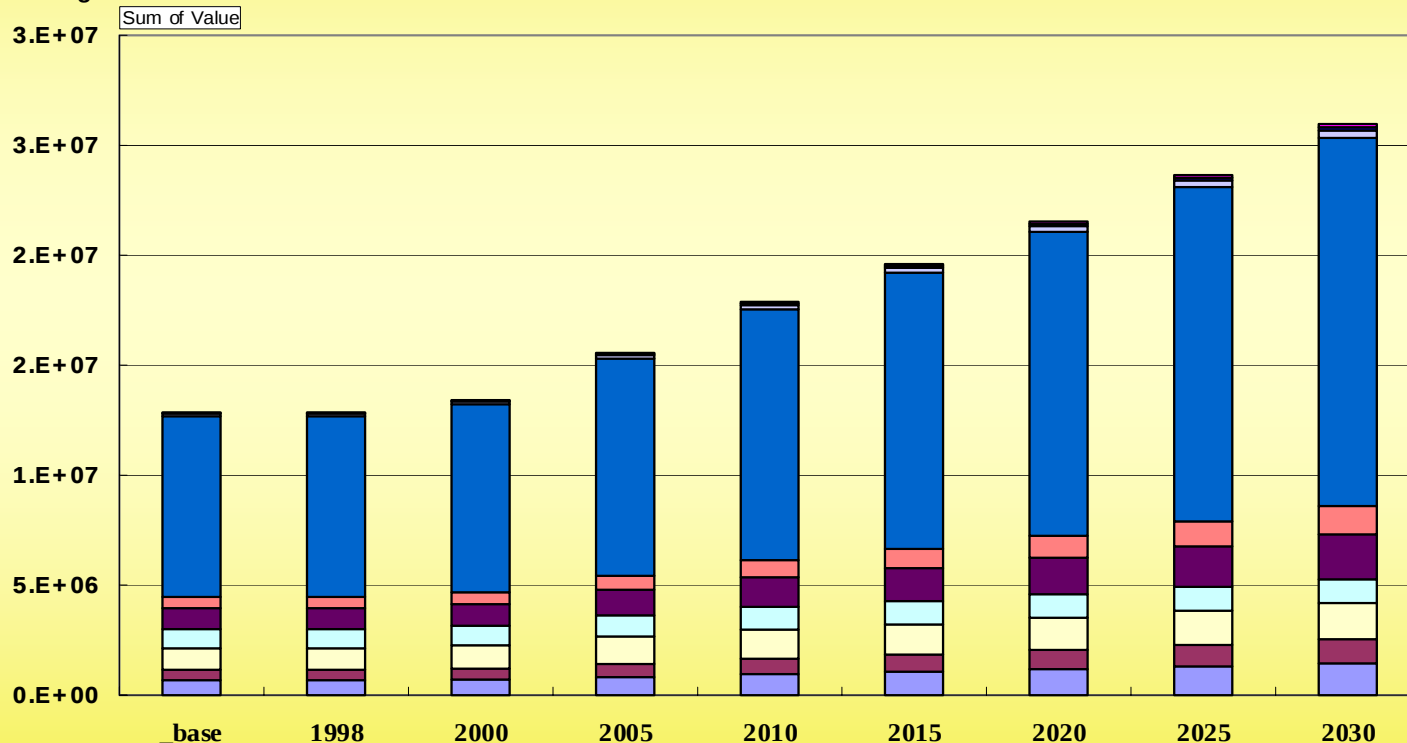
Year

BAU Simulation Results (2)

NO2 (LPS: Seoul & Kyunggi Province)

Kind EMS LPS Area LPS Item NO2 Removal (ㄱ ㄴ) LPS (ㄱ ㄴ) Region (ㄱ ㄴ)

Million gram



Sector

CHEMICAL TEXTILE ELECTRONIC PULP FOOD NONMETAL POWER CAR CONSTRUCTION RUBBER

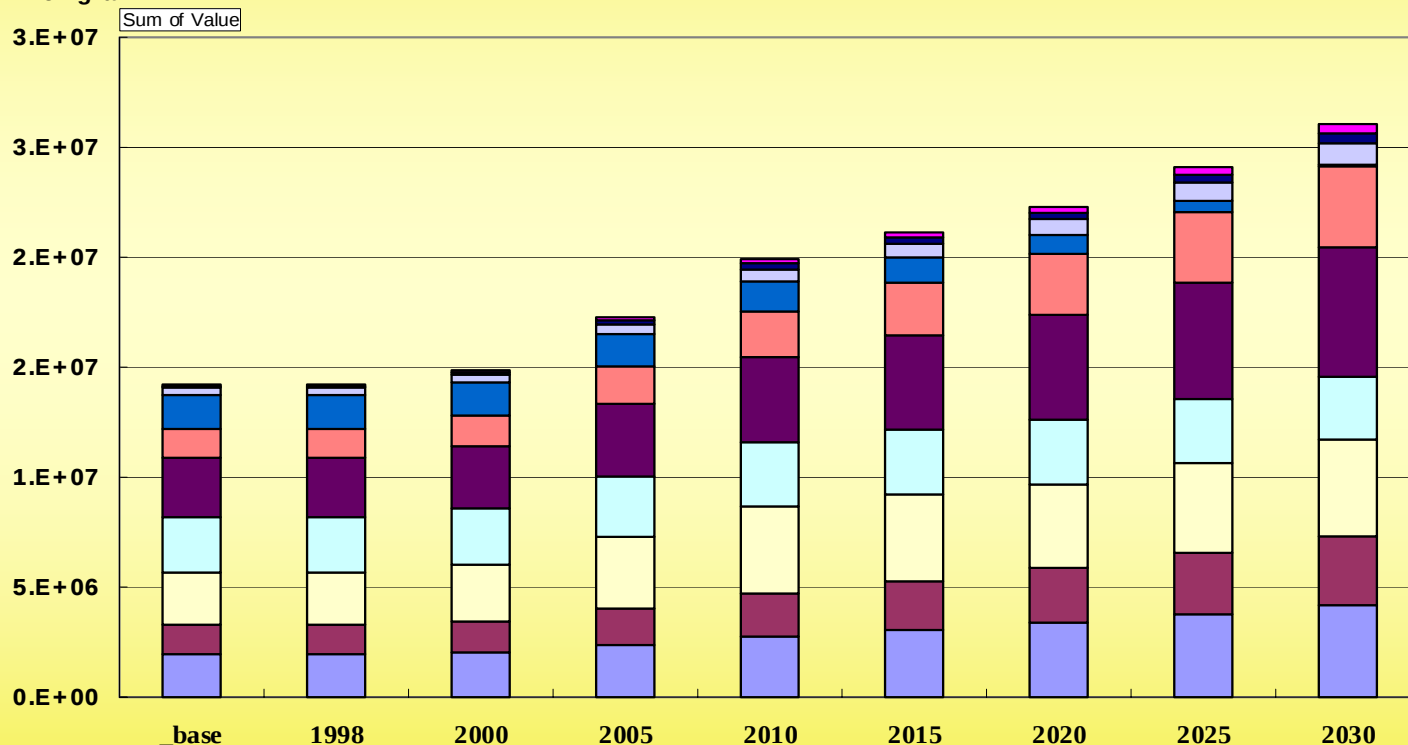
Year

BAU Simulation Results (3)

SO2 (LPS: Seoul & Kyunggi Province)

Kind EMS LPS Area LPS Item SO2 Removal (ㄱ ㄴ) LPS (ㄱ ㄴ) Region (ㄱ ㄴ)

Million gram



Sector

CHEMICAL TEXTILE ELECTRONIC PULP FOOD NONMETAL POWER CAR CONSTRUCTION RUBBER

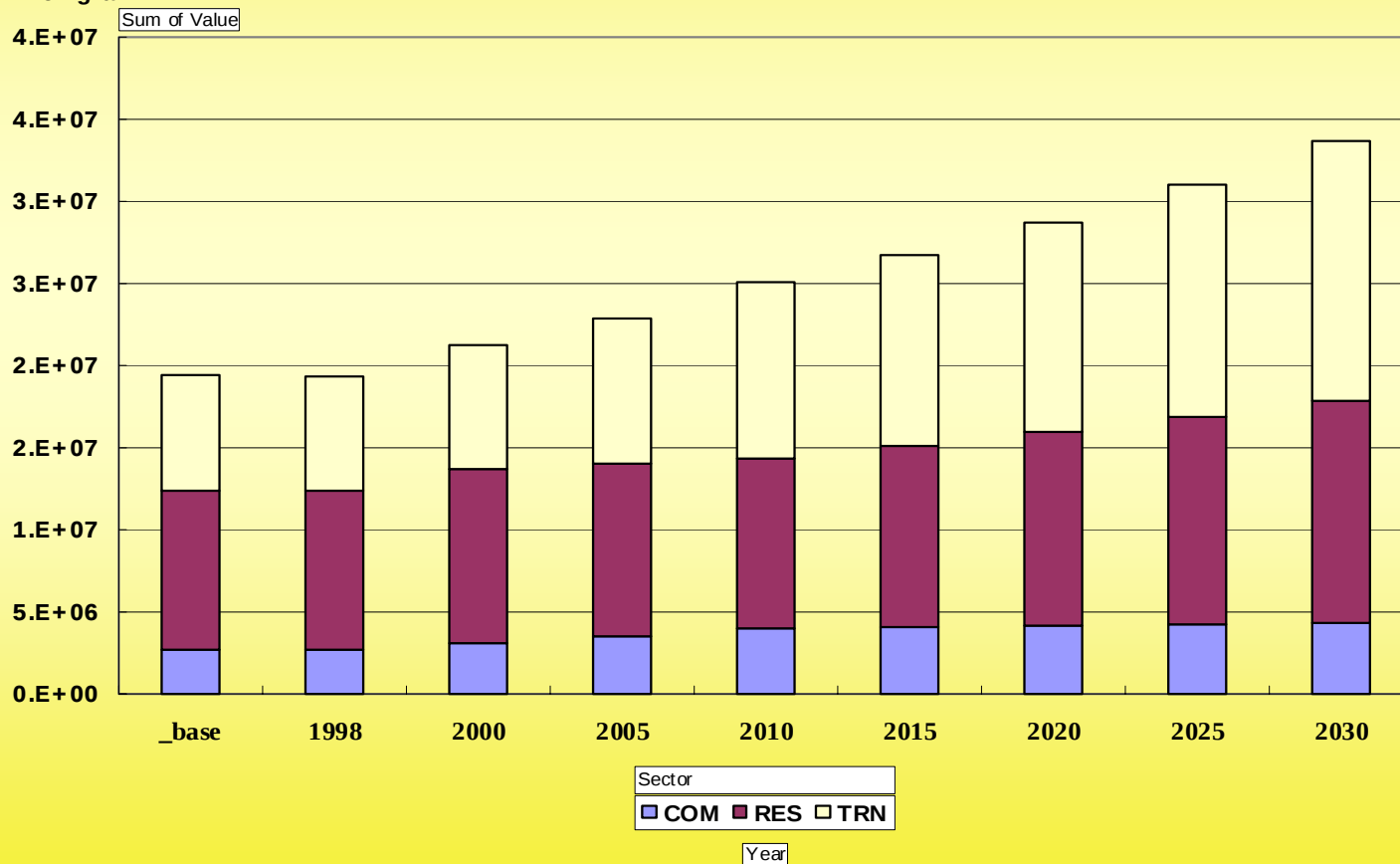
Year

BAU Simulation Results (4)

CO2 (Area Source: Seoul & Kyunggi Province)

Kind EMS LPS Area Area Item CO2 Removal (ㄱ ㄸ) LPS (ㄱ ㄸ) Region (ㄱ ㄸ)

Million gram

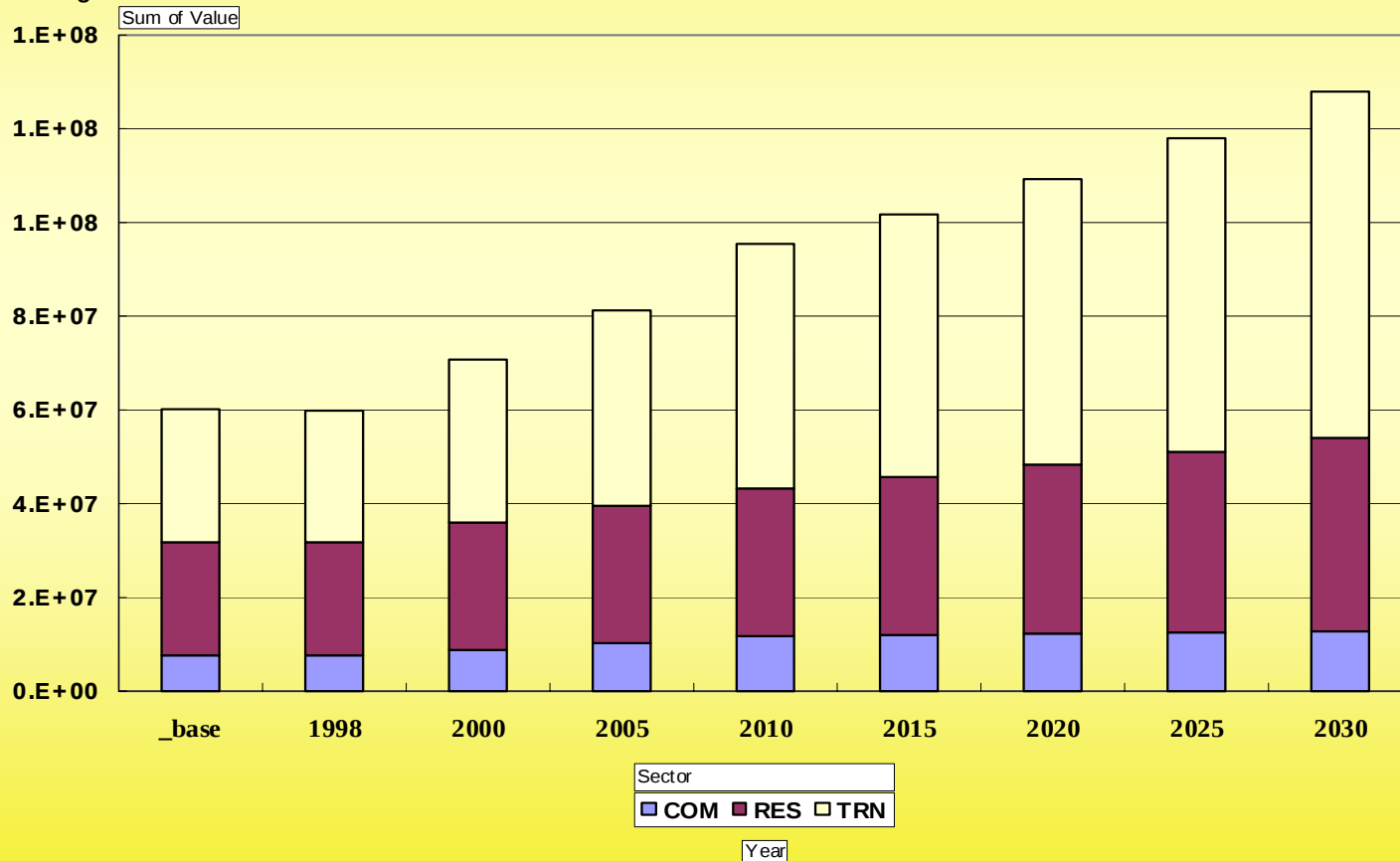


BAU Simulation Results (5)

NO2 (Area Source: Seoul & Kyunggi Province)

Kind|EMS|LPS_Area|Area|Item|NO2|Removal|(ㄱ ㄴ)|LPS|(ㄱ ㄴ)|Region|(ㄱ ㄴ)

Million gram

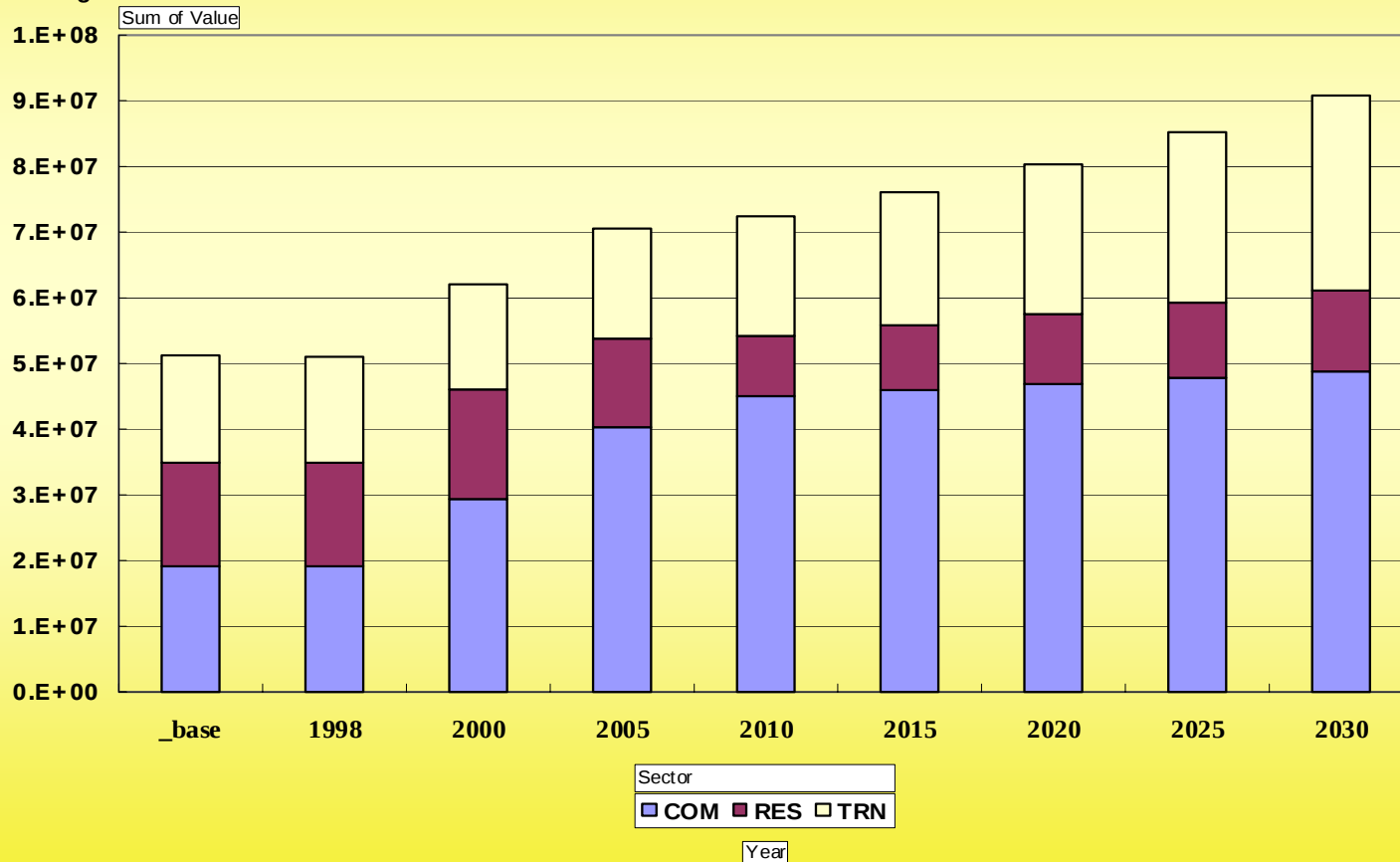


BAU Simulation Results (6)

SO2 (Area Source: Seoul & Kyunggi Province)

Kind EMS LPS Area Area Item SO2 Removal (ㄱ ㄴ) LPS (ㄱ ㄴ) Region (ㄱ ㄴ)

Million gram



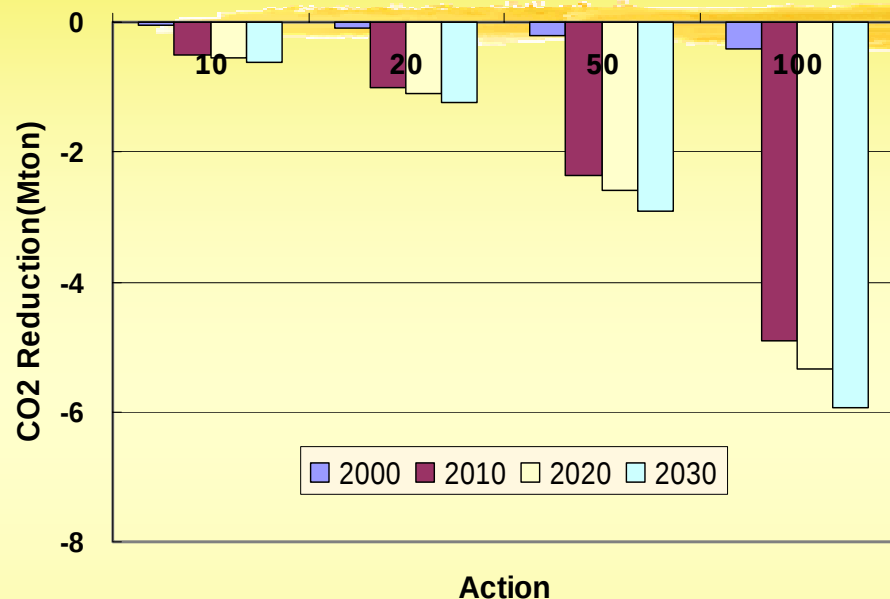
Policy Simulation Setting

(Examples)

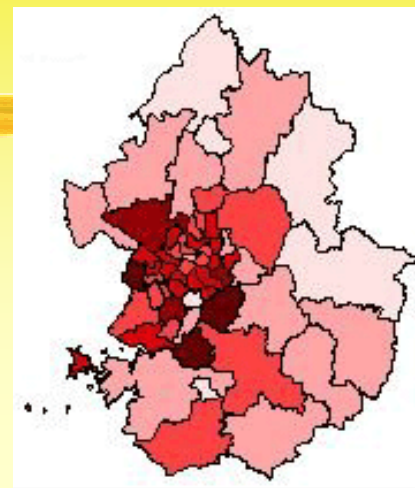
Option	Energy Service	Reduction
• Turn off Air Conditioner for one hour	Cooling (Res.)	5%
• Raise one Degree of Cooling Temperature	Cooling (Com.)	1%
• Car Pool System	Pass. Car (Tran)	1%
• Use Mass Transportation System	Pass. Car (Tran)	1%

* We need further back-up materials and data.

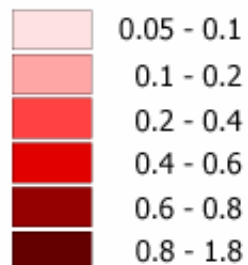
Policy Simulation Results (1)



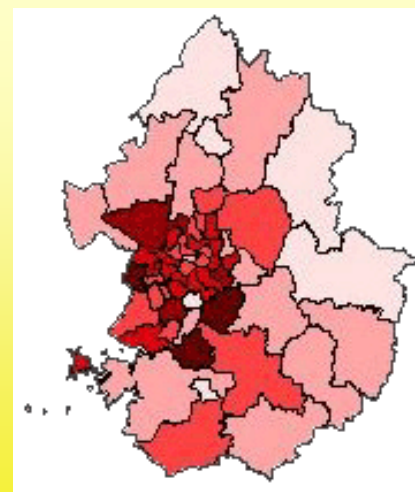
CO₂BASE



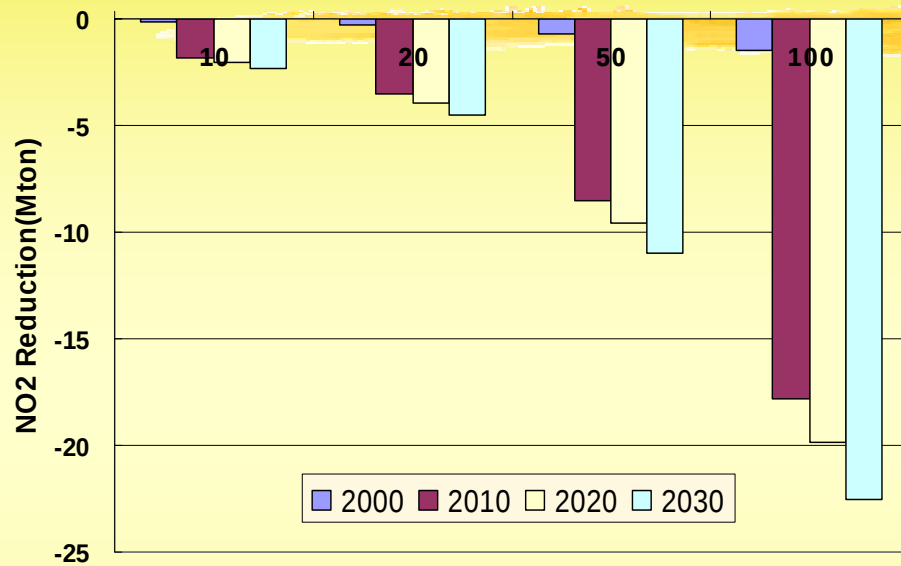
CO₂ Emission (Mton)



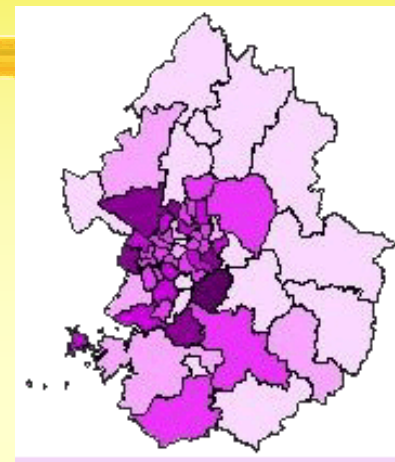
CO₂ACT50



Policy Simulation Results (2)

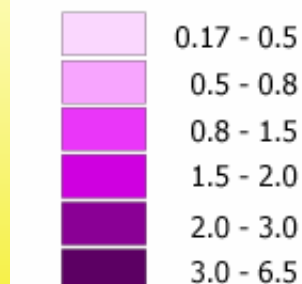


NO₂BASE

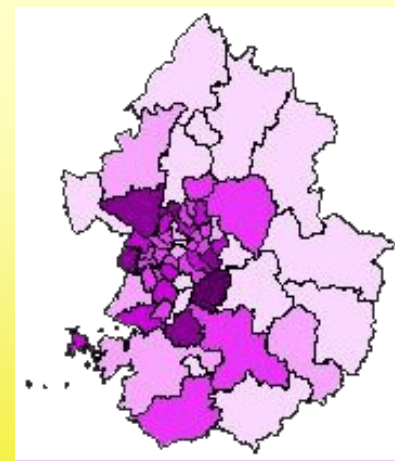


Action

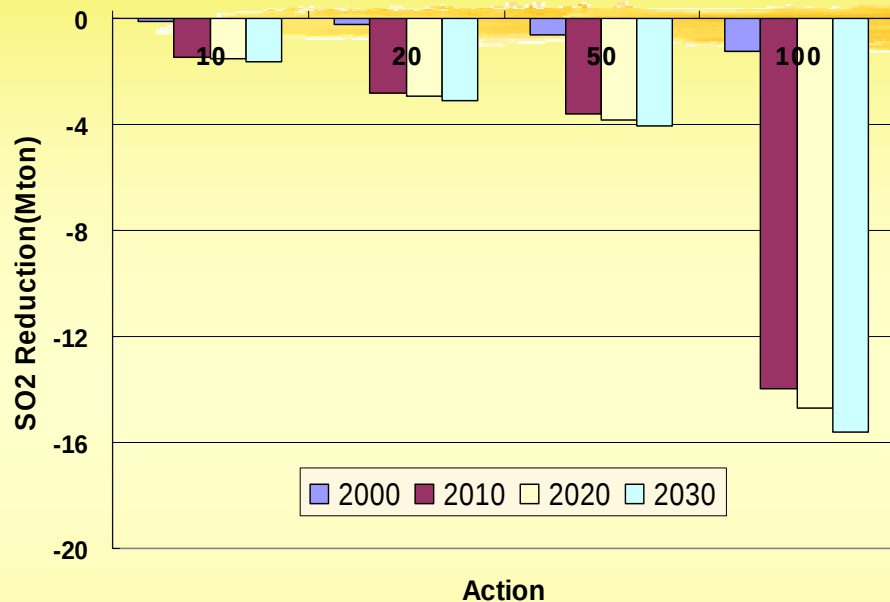
NO₂ Emission (Mton)



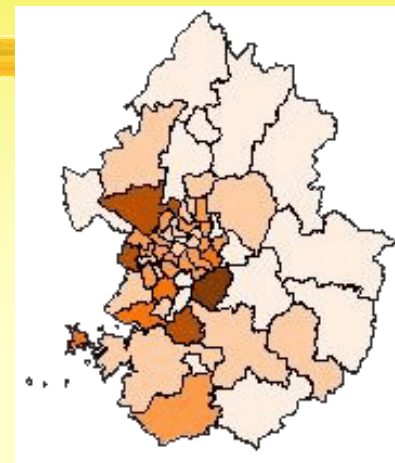
NO₂ACT50



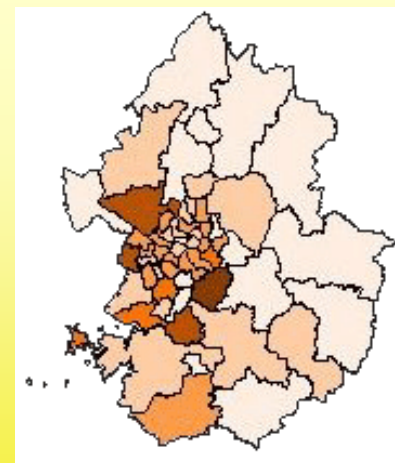
Policy Simulation Results (3)



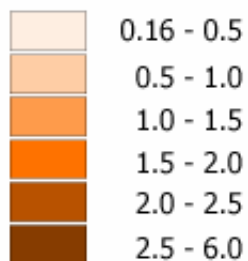
SO2BASE



SO2ACT50



SO₂ Emission (Mton)



Thank you !!!

