

AIM/China: Development and Application

ERI AIM Project team

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March 12th to 14th, 2004, NIES, Tsukuba

AIM/Country-China: Progress in 2003-2004

- Adjust service demand based on 2002 and 2003 data
- Adjust energy data to follow actual energy use in 2000 and 2002
- Adjust emission data
- Market case
- Policy case(carbon tax case)

AIM/Local-China: Progress in 2003-2004

- Power sector
- Commercial sector
- Rural
- Urban
- Transport sector
 - Adjust energy data to follow actual energy use in 2000 and 2002
 - Adjust emission data
 - Market case
 - Policy case(carbon tax case)

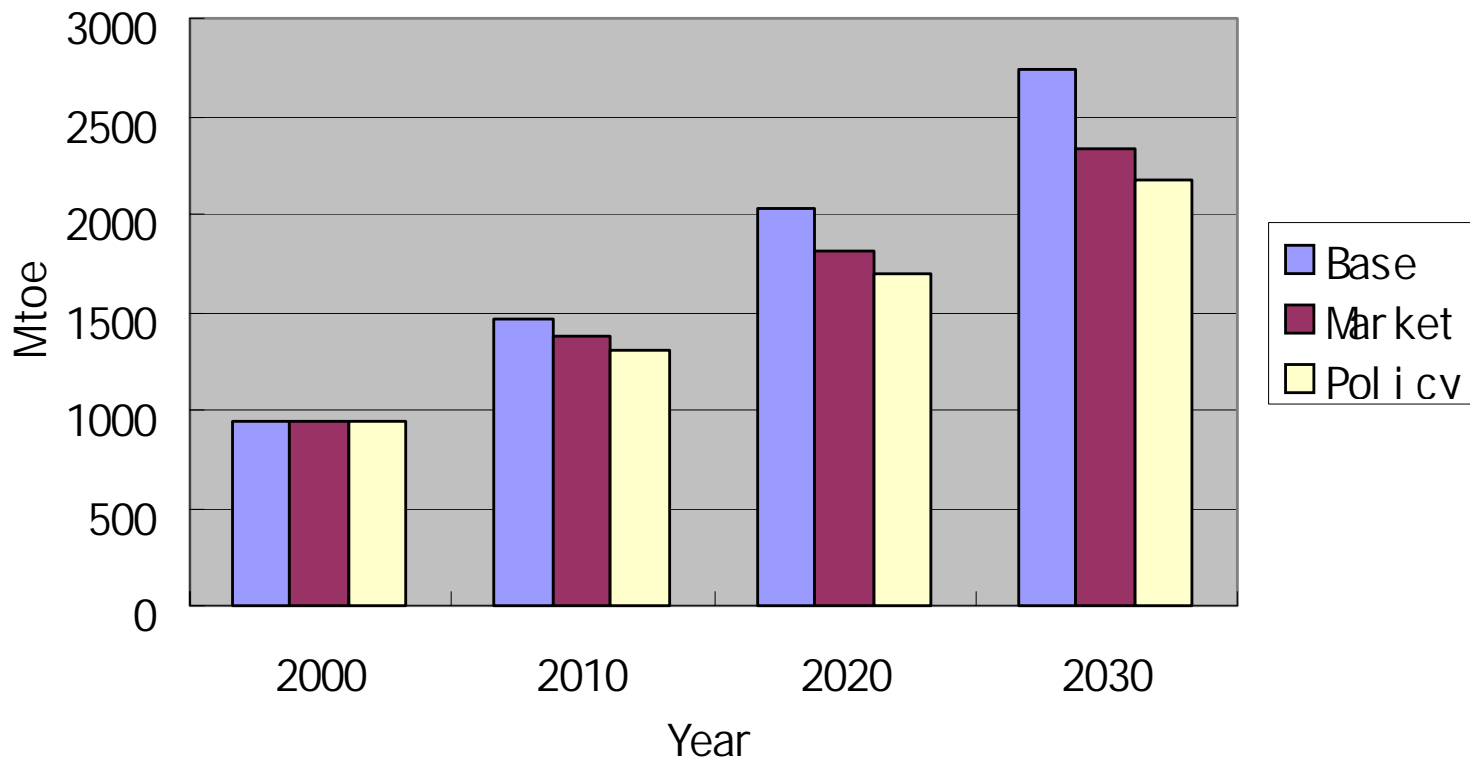
AIM/Local-China: Progress in 2003-2004

- Non-ferrous sector
 - Divide service into four services: copper, aluminum, lead, zinc(under going)
- Oil refinery sector
- Chemical sector(under construction)

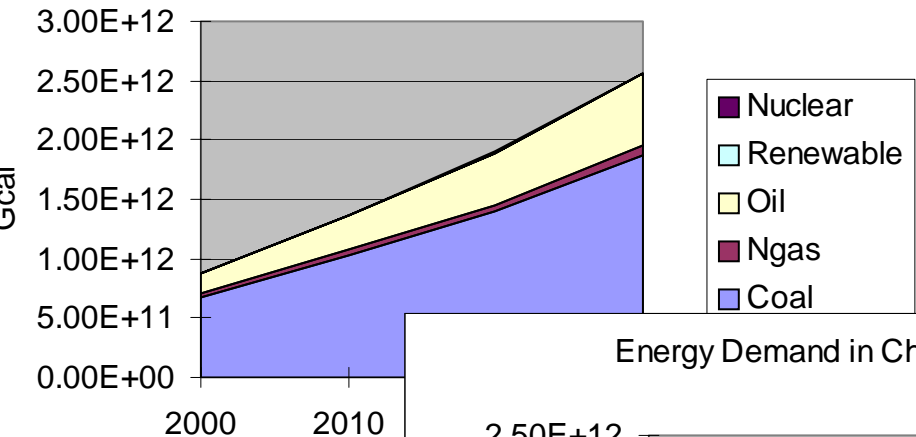
AIM/Material-China: Progress in 2003-2004

- Preliminary Version of AIM/Material-China
- Linked with Health Impact

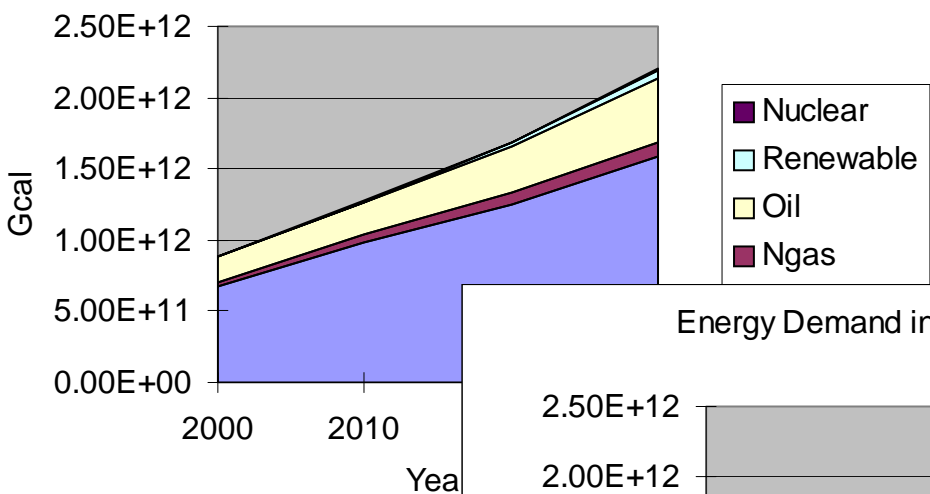
Energy Demand in China



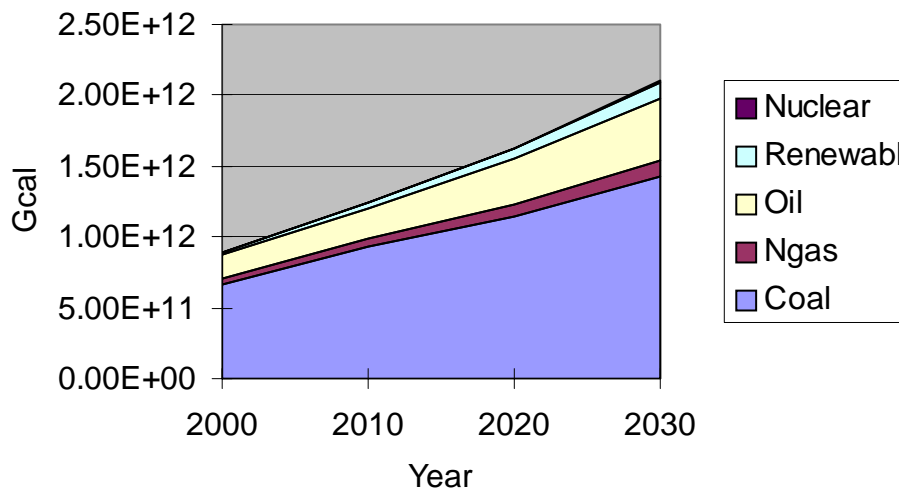
Energy Demand in China, Base case



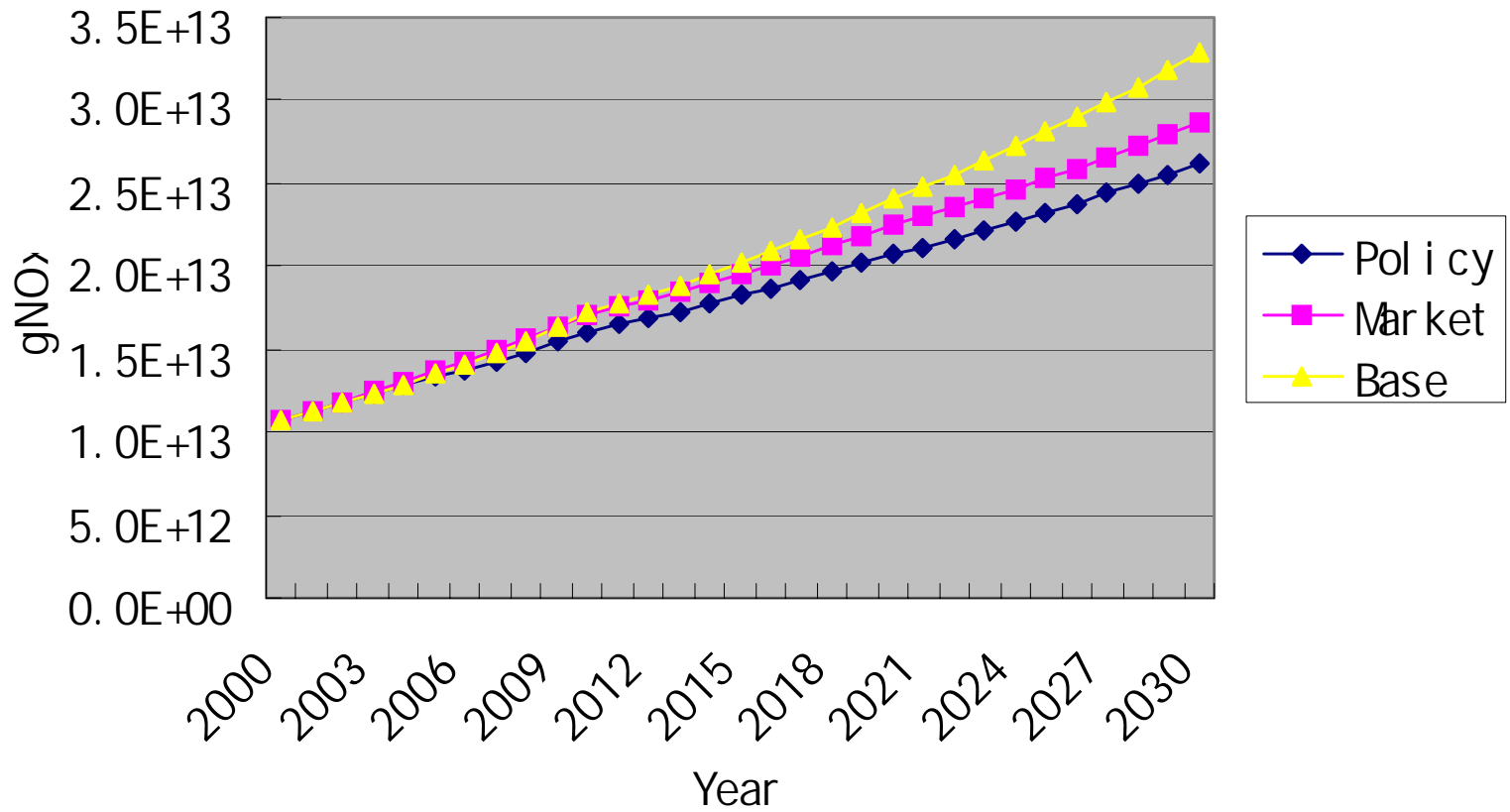
Energy Demand in China, Market Case



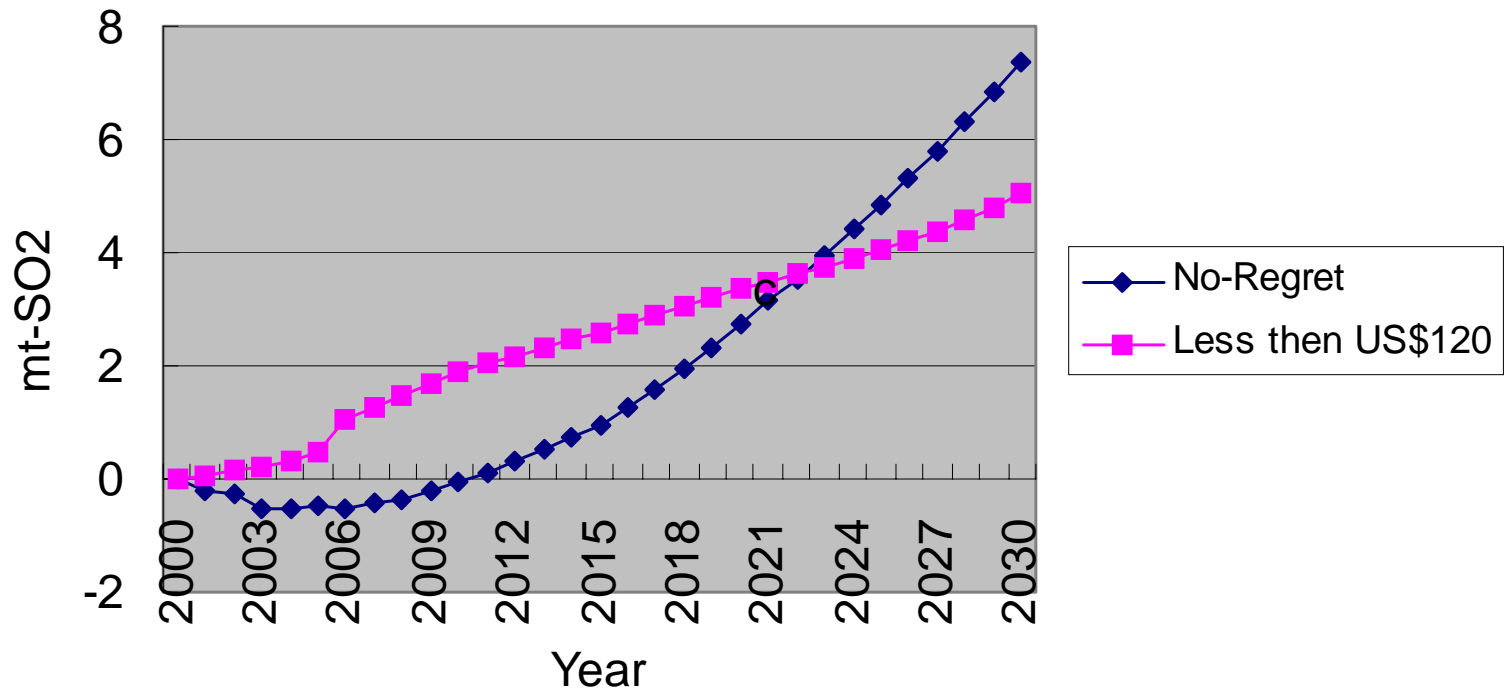
Energy Demand in China, Policy Case



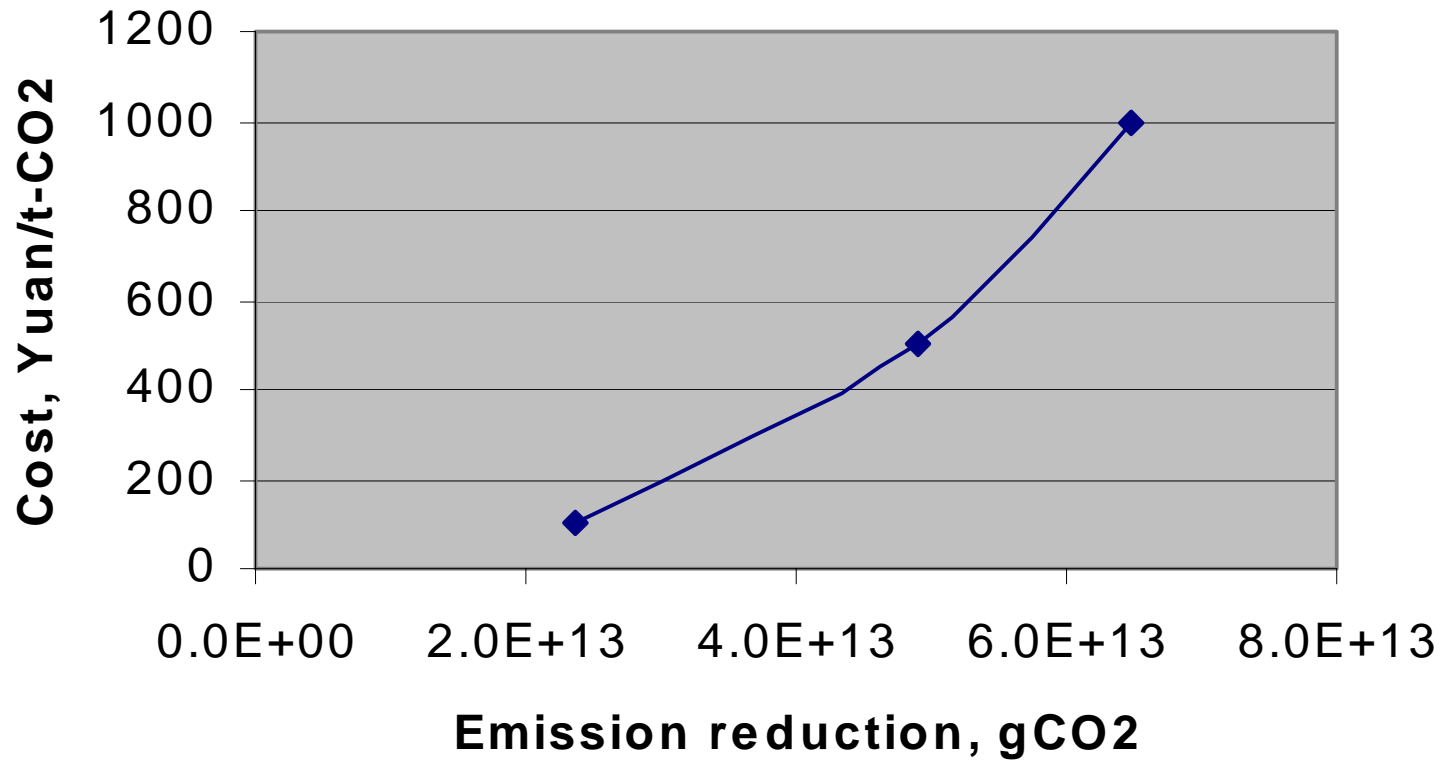
NO_x Emission in China



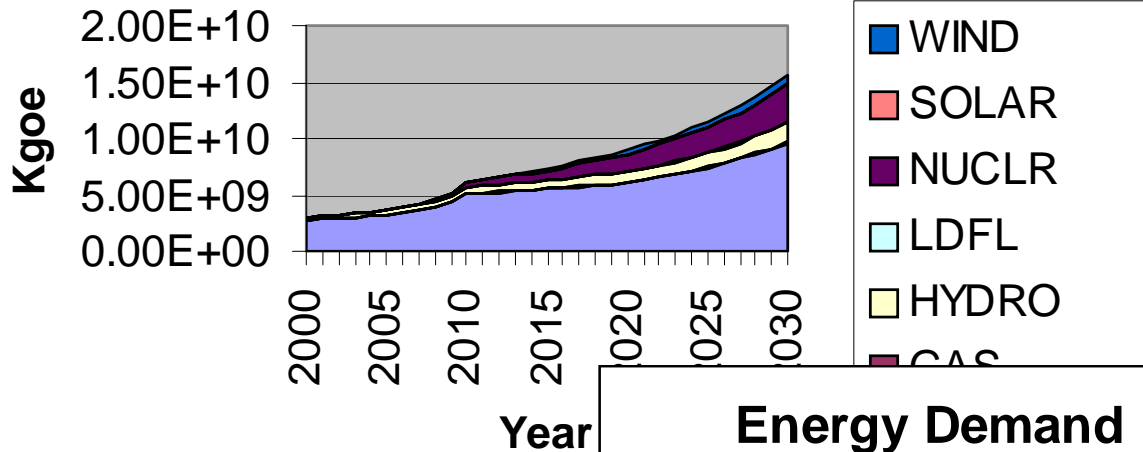
Contribution of technology progress on SO2 Emission reduction in China



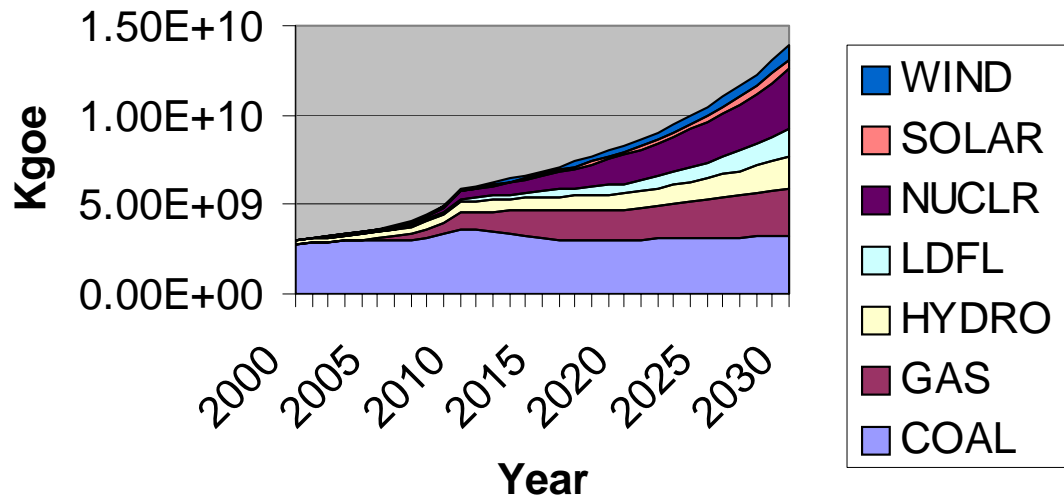
Marginal Abatement Cost



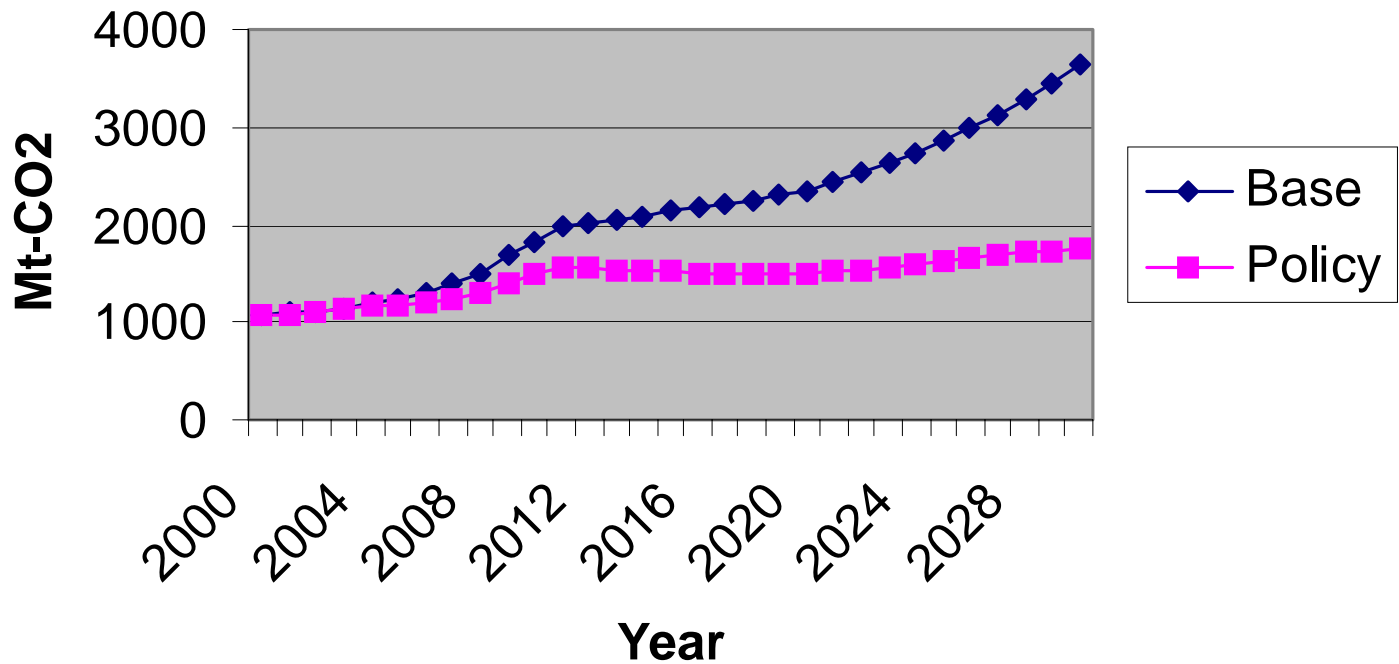
Energy Demand in Power Generation, base case



Energy Demand in Power Generation, Policy Case



CO2 Emission in Power generation



Application of AIM/China: IPAC

“Tenth Five Year” Key research Project on Climate Change

Beijing Clean Energy Future

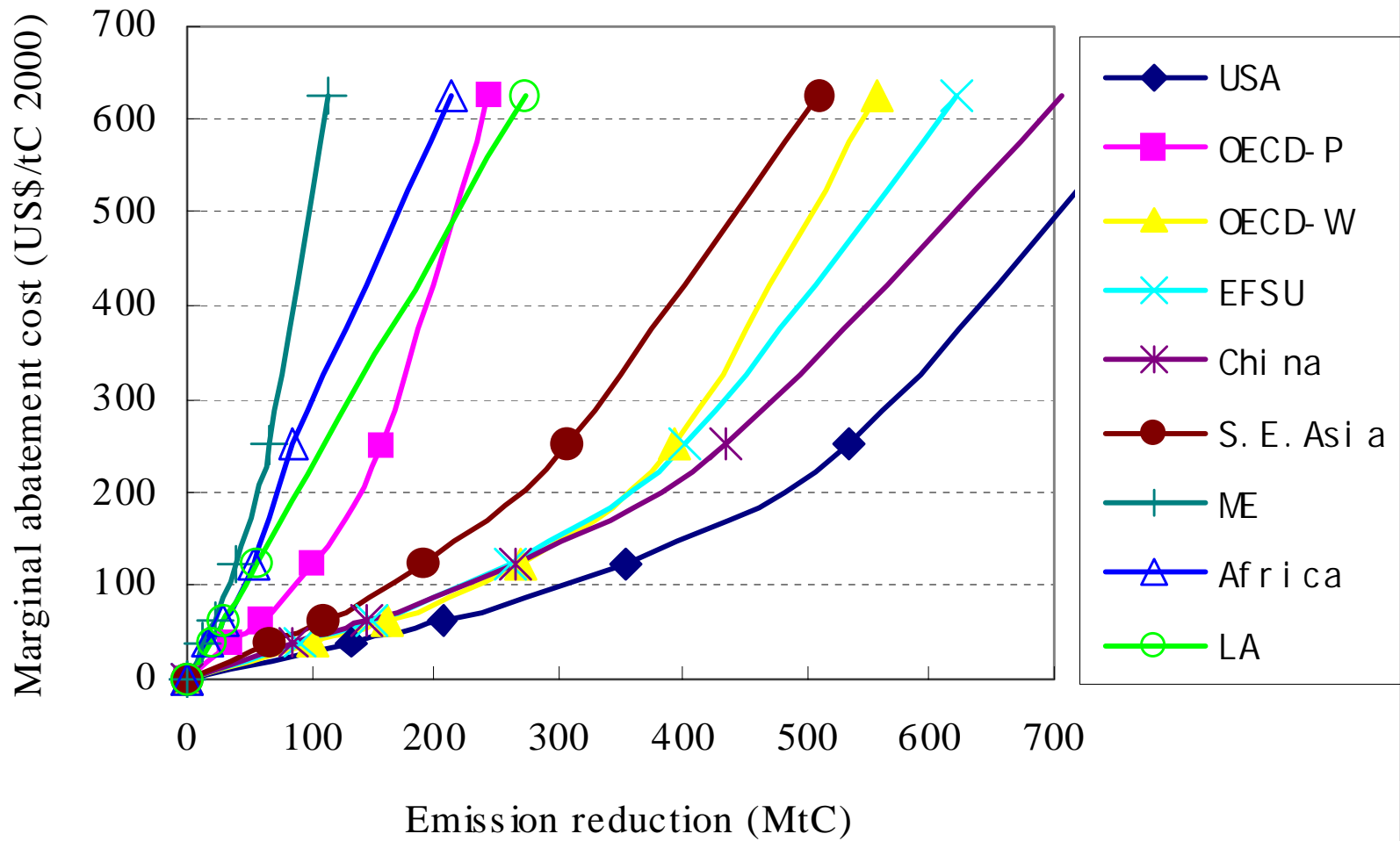
CDM Assessment in China

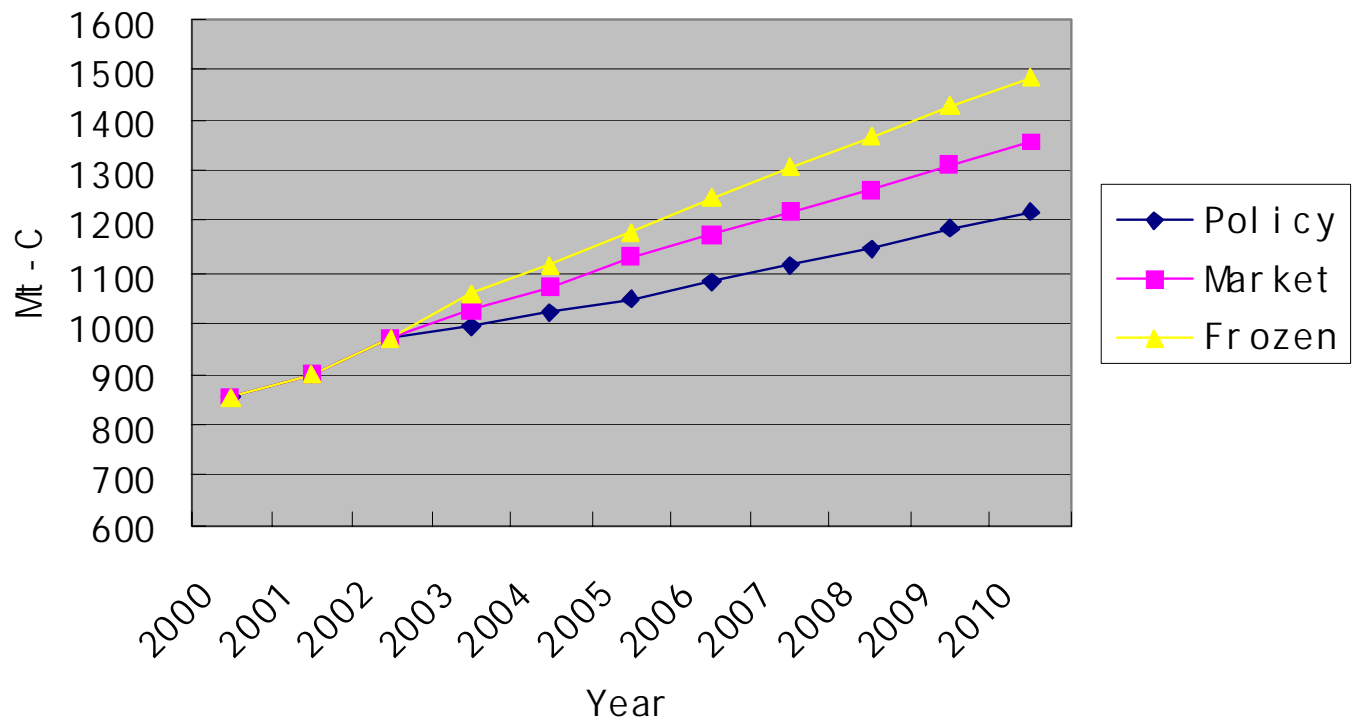
Non-CO2 Emission Mitigation Cost, EMF study

China Emission Scenario

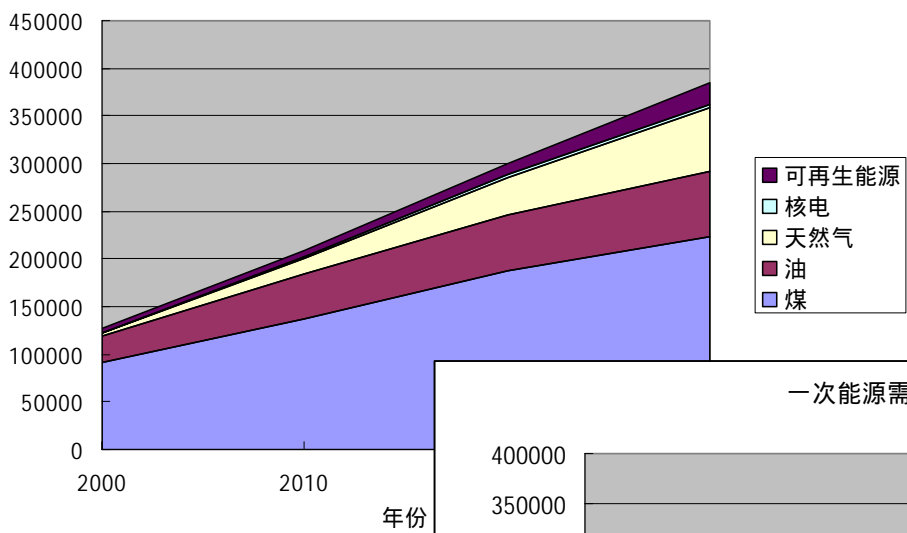
APEIS/RISPO

Development First

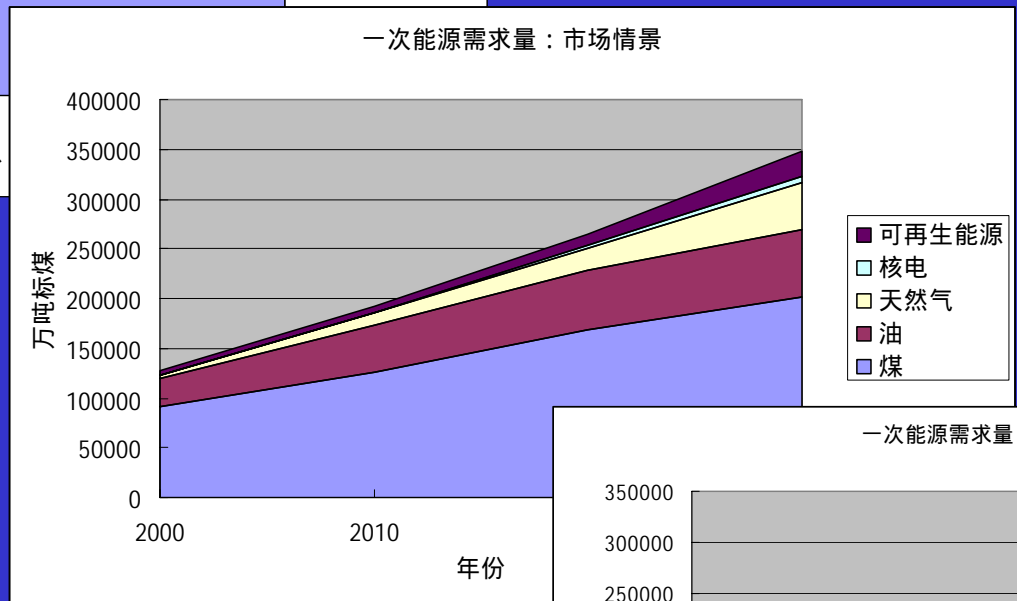




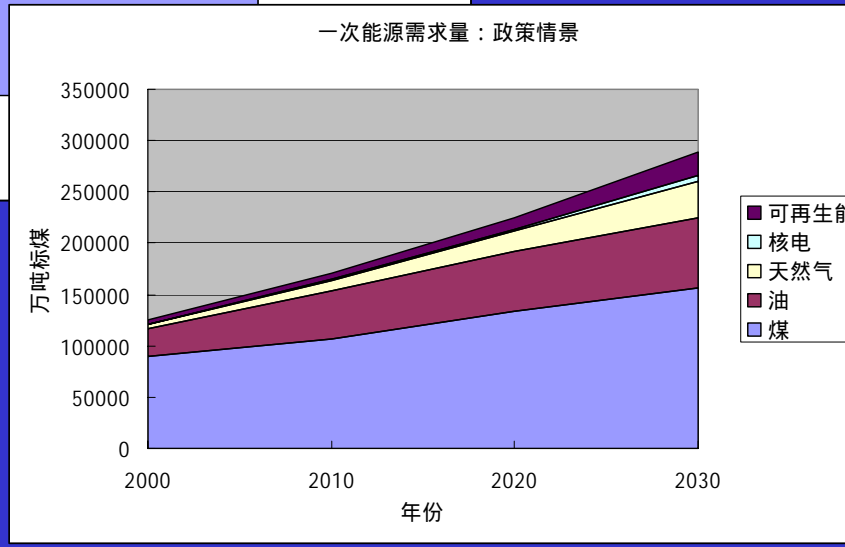
一次能源需求量：基准线情景



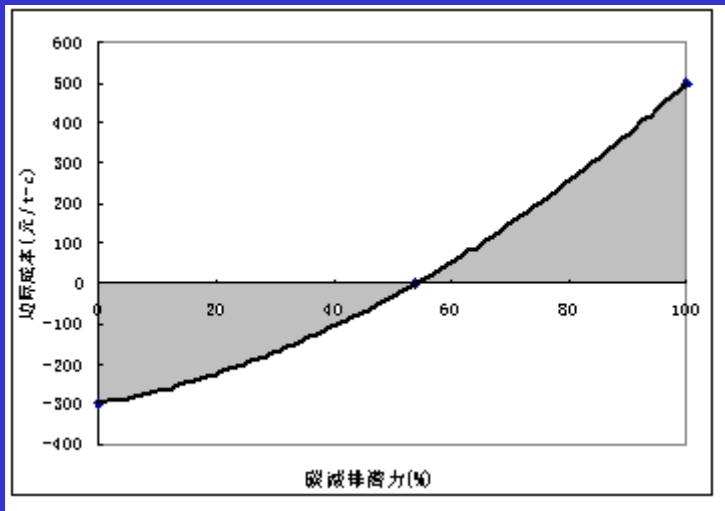
一次能源需求量：市场情景



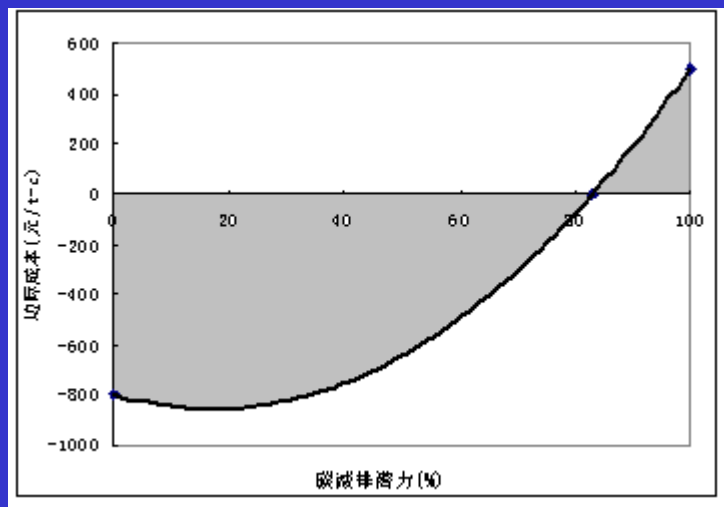
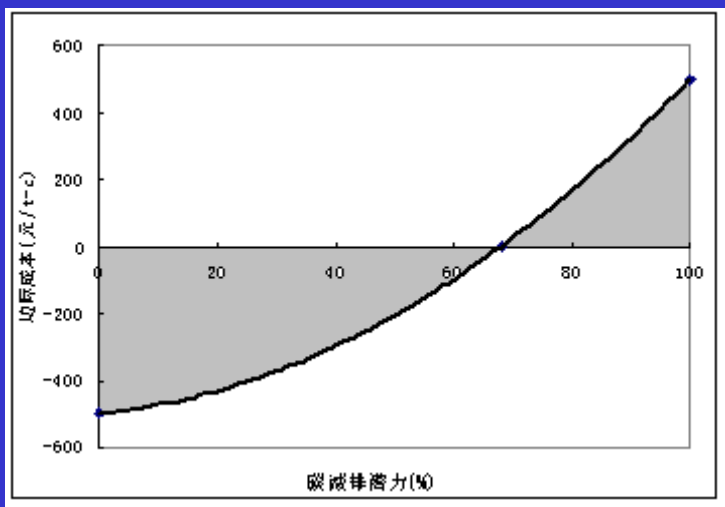
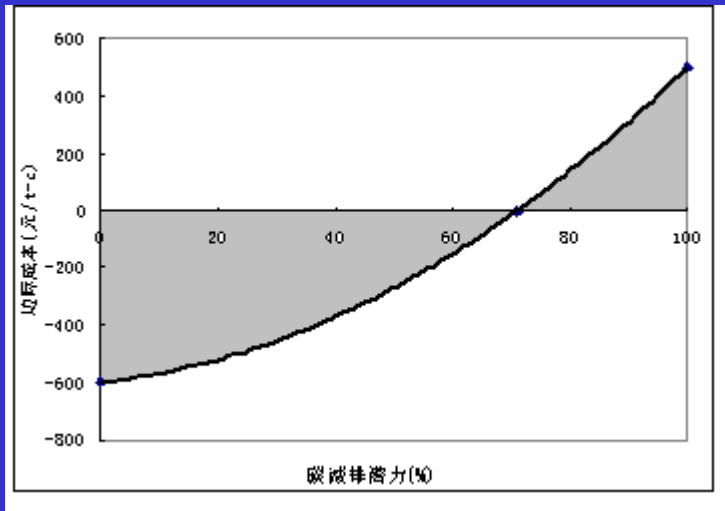
一次能源需求量：政策情景



Power Generation



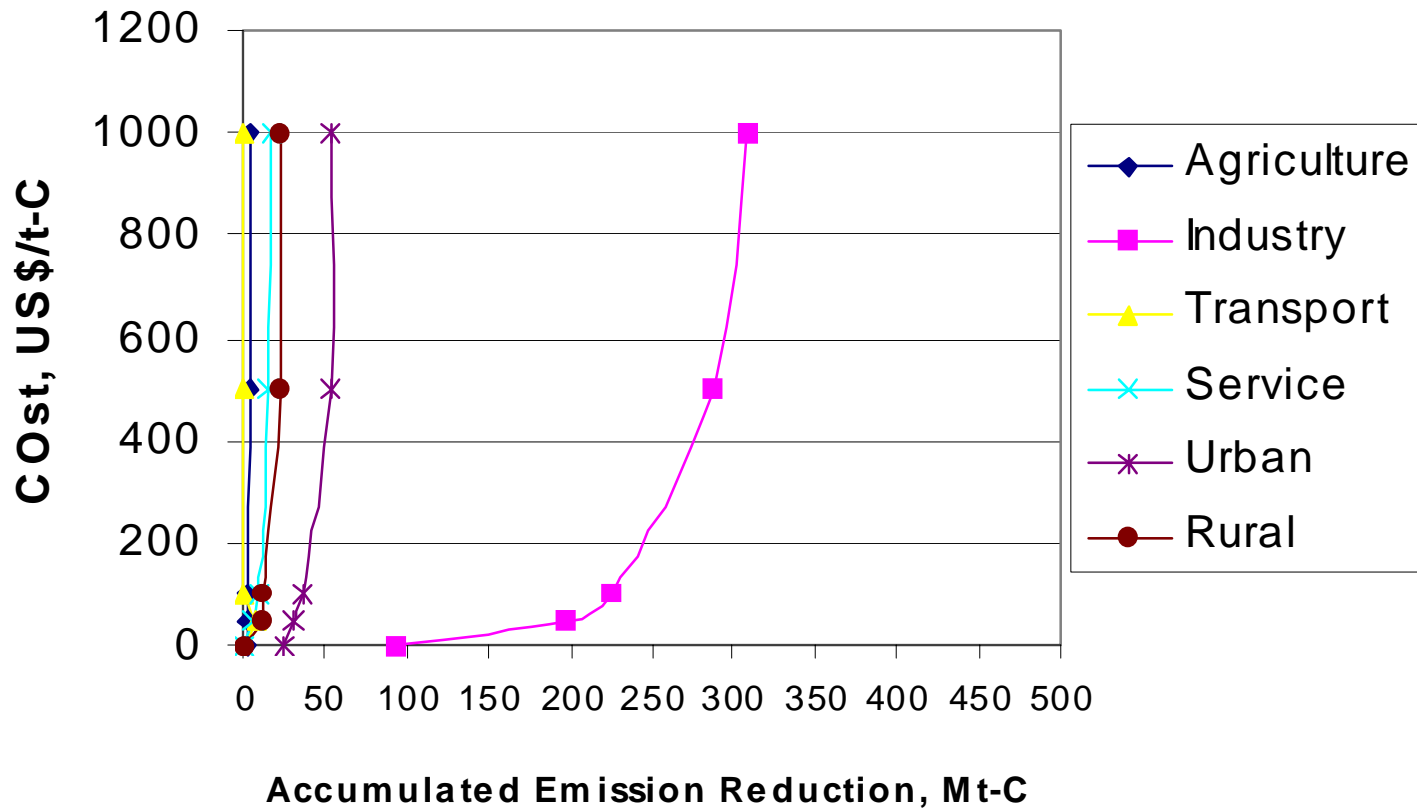
Industry



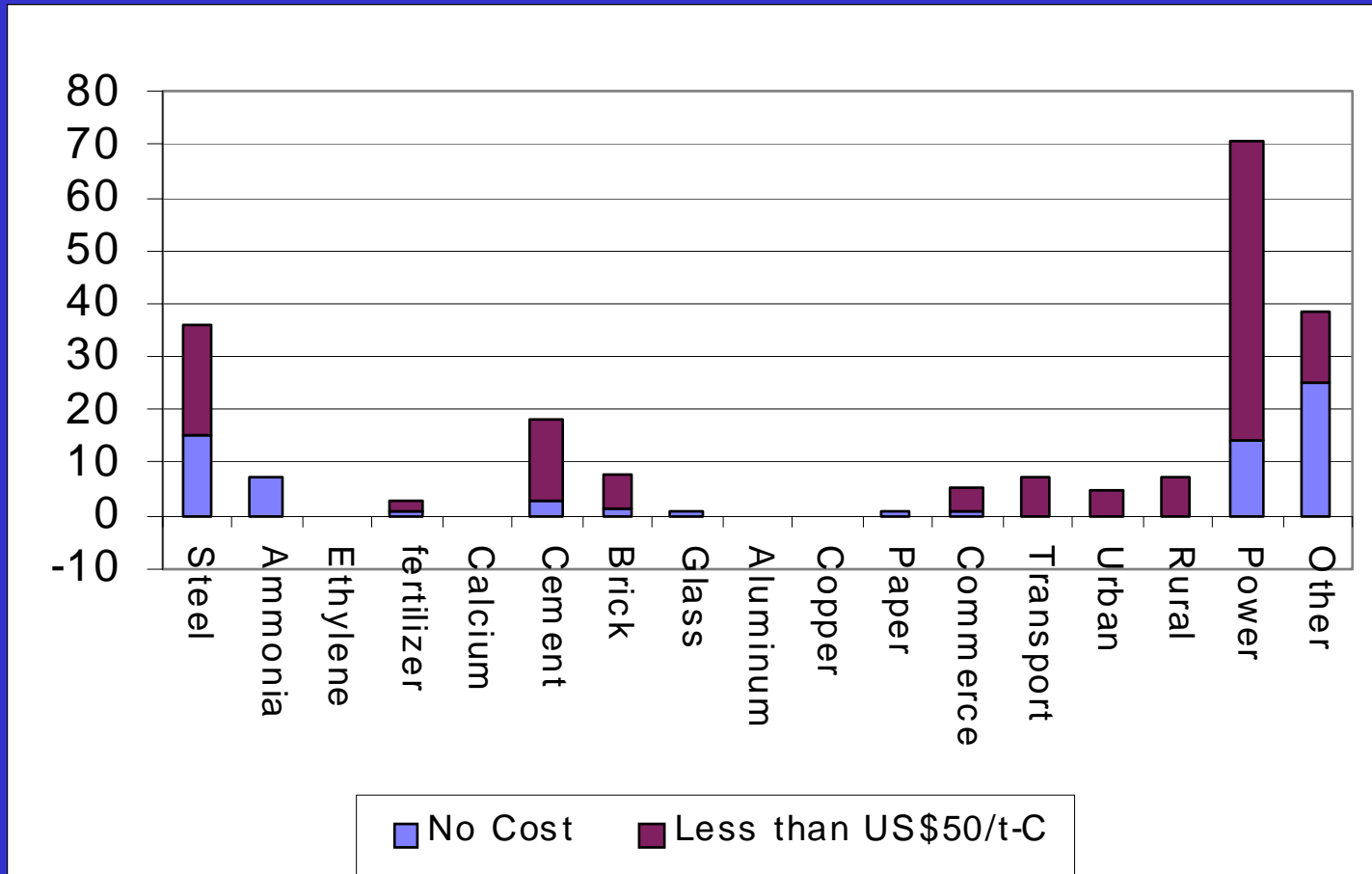
Building

Transport

CO2 Emission Abate Cost Curve in China



CO2 Emission Reduction Potential by Sector



EST Scenario for Beijing

-  *Government promotion(BaU)*
-  *Technology Progress(TG)*
-  *Clean future(CF)*

Scenario for Beijing

	BaU	TG	CF
GDP.	2000-2010:9.3% 2010-2020:8.5^	Same	Same
Pop.	2000:13.6 2020:15.7	Same	Same
GDP per Capita	2000: 10515 2020: 49994	Same	Same
Vehicle Stock	2000: 1.55million 2020: 4.8million	2000: 1.55million 2020: 4.2million	2000: 1.55million 2020: 4.6million
Total passenger traffic volume	2000: 23.4 2020: 36.7	Same	Same
Total freight Traffic volume	2000: 8.73 2020: 13.36	2000: 8.73 2020: 13.36	2000: 8.73 2020: 13.36
Share of public transport in total passenger	2000: 31.7% 2020: 24.9%	2000: 31.7% 2020: 36%	2000: 31.7% 2020: 36%

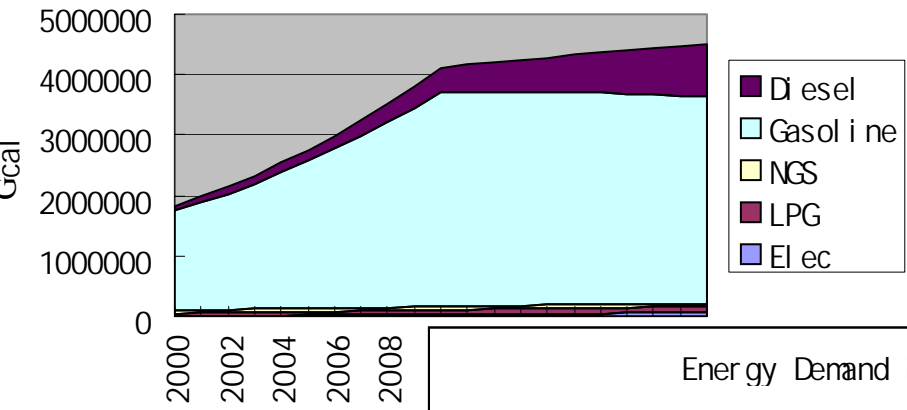
Scenario for Beijing

	BaU	TG	CF
MRT	2000: 54 2008: 300 2020: 1000	Same	Same
Number of Buses	2000: 7650 2020: 13000	2000: 7650 2020:15000	2000: 7650 2020:15000
Clean fuel bus	2000: 3680 2020: 10000	2000: 3680 2020: 12000	2000: 3680 2020: 12000
Emission Standard	2007: EURO III	2006: EURO III 2010: EURO IV	2006: EURO III 2010: EURO IV
Parking fee			
Public Transport Oriented Policy		Bus lane Better interchange	Bus lane Better interchange
ITS		Finish by 2006	Finish by 2006

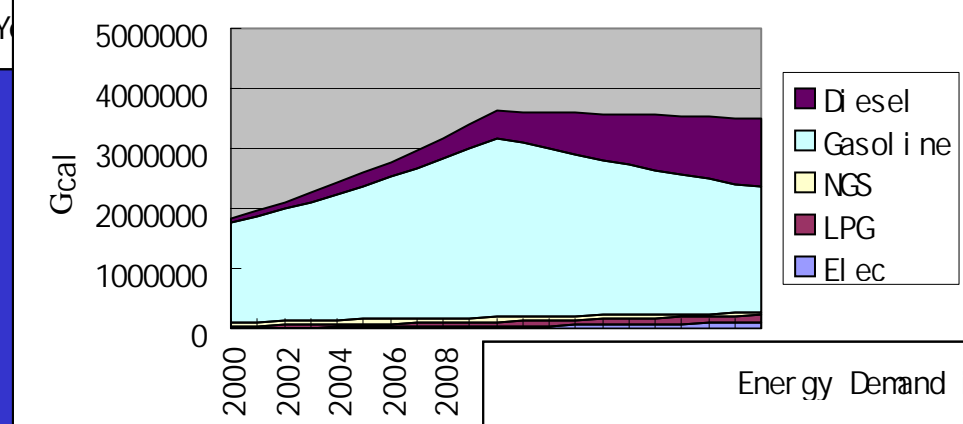
Scenario for Beijing

	BaU	TG	CF
Clean fuel			2007: M85%
High efficiency car			2004:Hybrid car 2005: new diesel car 2010: fuel cell car
Mini Car			Incentive policies
Integrated transport		Public interchange	Public interchange Bicycle
Public involvement			Public transport Energy saving driving

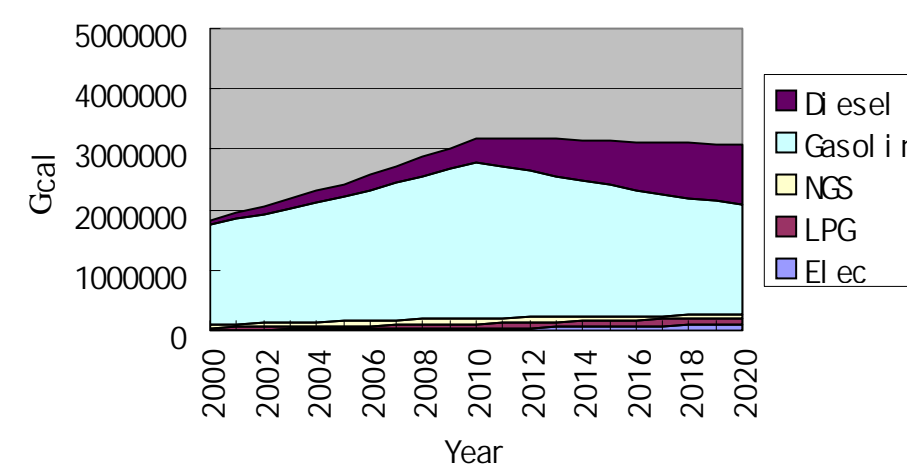
Energy Demand in Beijing, BaU



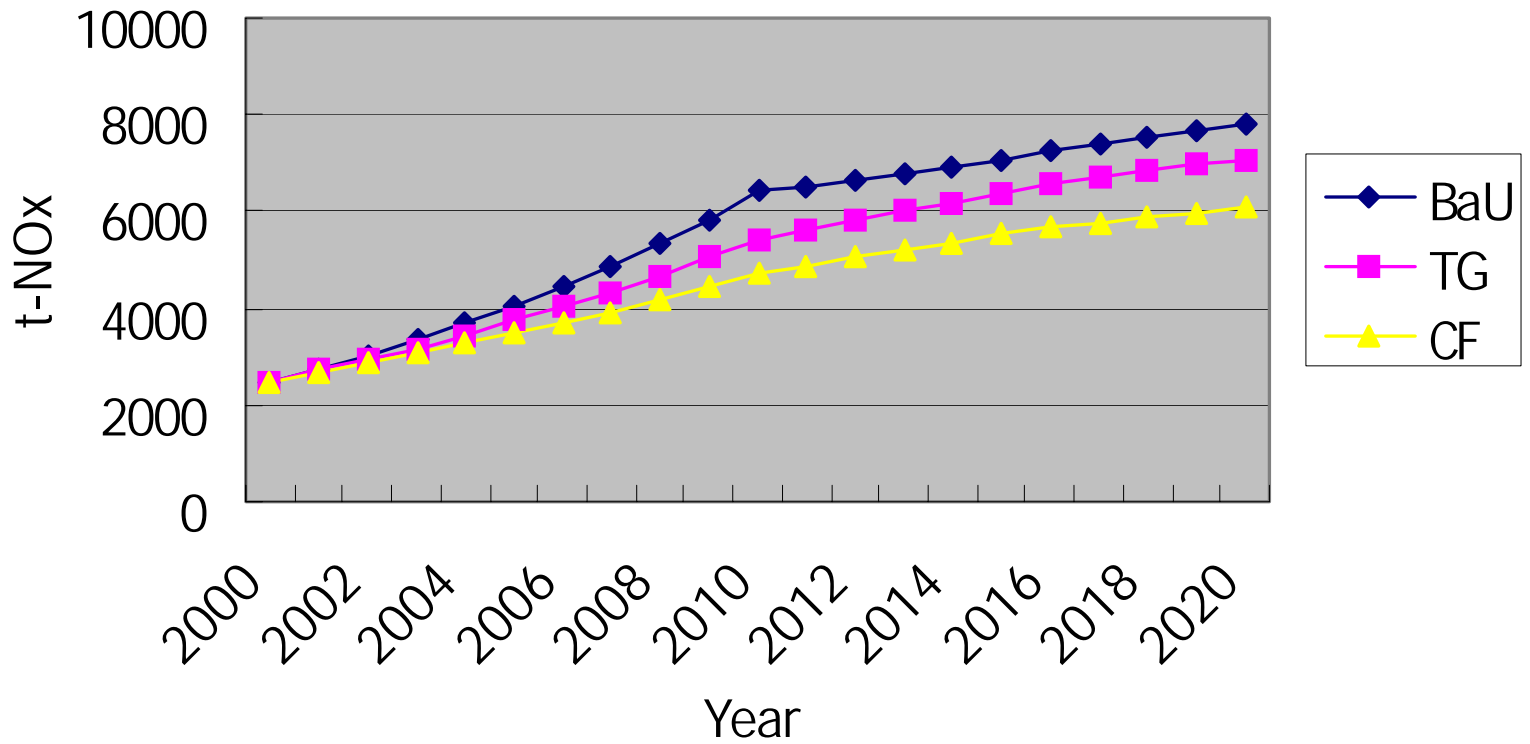
Energy Demand in Beijing, TG



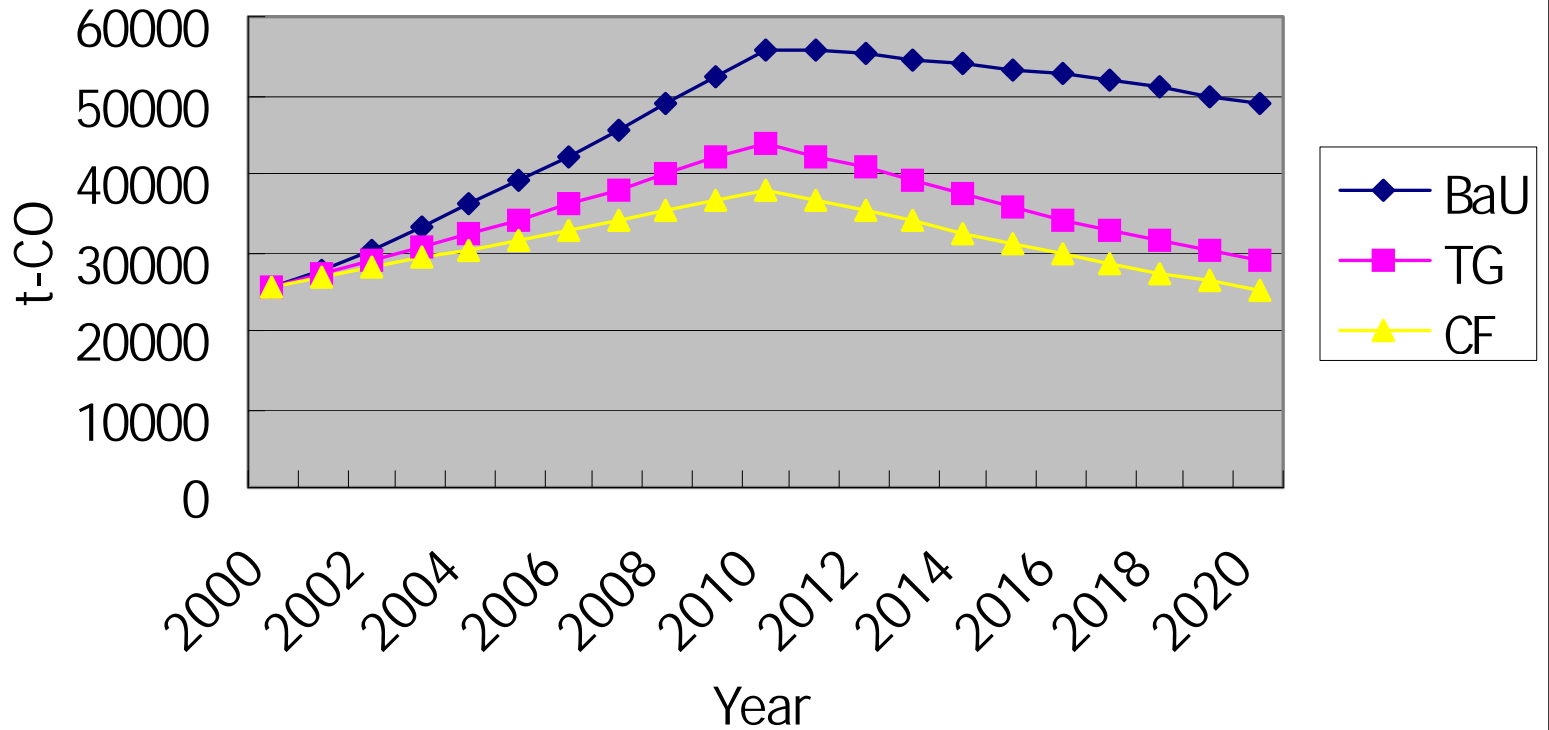
Energy Demand in Beijing, CF



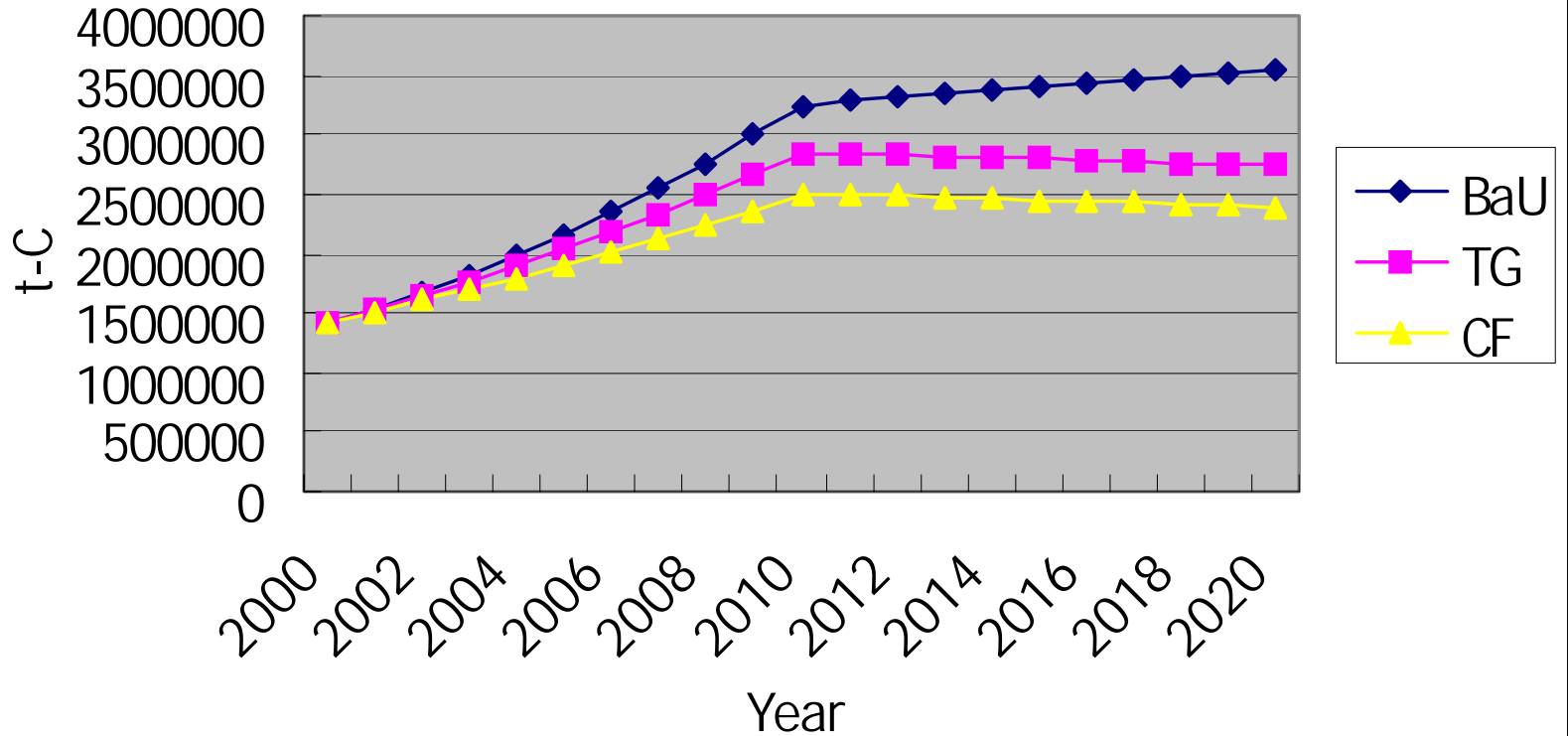
NOx emission in Beijing from transport



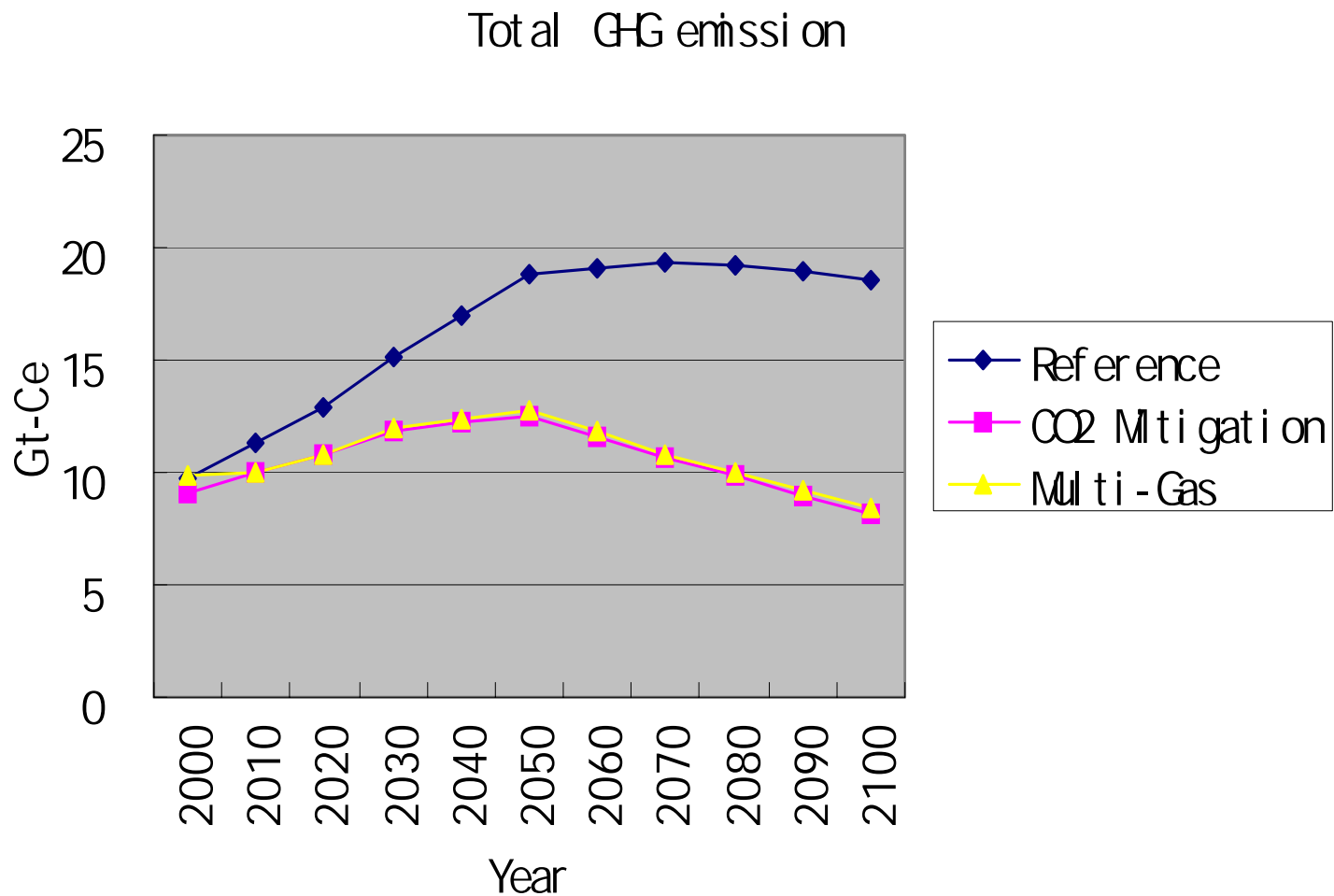
CO emission in Beijing from transport



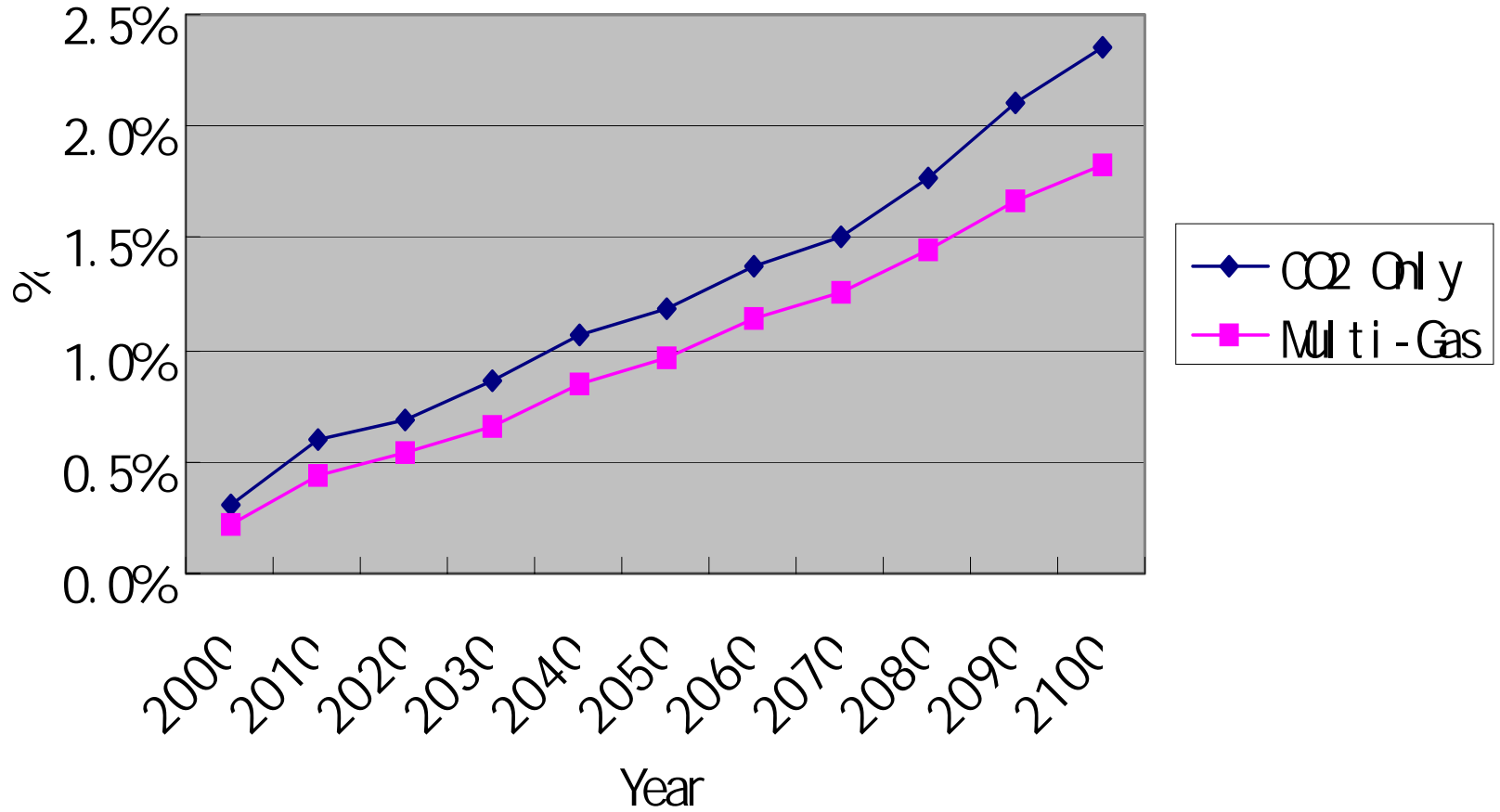
CO2 emission in Beijing from transport



EMF-21 Study: Non-CO2 Mitigation



GDP Loss



Next Step of AIM/China

AIM/Country-China

Including 2003 data

Using AIM/Country for China Energy Scenario Forum

Other pollutant: PM10, water pollution, land damage

AIM/Local:

AIM/Local-Refinery

AIM/Local-Chemical

AIM/Local-Other

More LPS information

AIM/Beijing

AIM/Chongqing

GIS information

Linked with AIM/Air

Next Step of AIM/China

AIM/Material-China

Finish model for China

Provide preliminary results

Including 2003 data

APEIS

Strategy Database

Simulation for Strategies

Case study for selected city or province in China

Application of AIM/China in 2004

“Tenth-Five Year” key research project on Climate Change

Climate Change Strategy in China

Beijing Environment Research Project

Development First

EMF-22

APEIS

Impact of WTO on Energy and Environment

Contribute to:

National Report on Climate Change

National Report on Climate and Environment Science

Climate and Sustainable Development

CDM Assessment in China, World Bank Publication