

The First Workshop on Economic and Environmental Modeling Between Korea and USA

*Dr. Jung-Sik Koh, MOCIE
Mar.2.2000, Seoul, Korea*

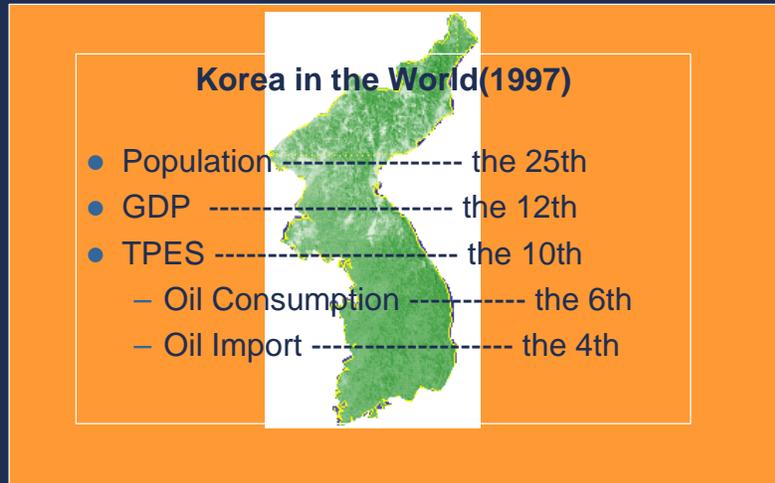


Korea's Efforts to Harmonize Energy, Economy and Environment

- Energy and CO₂ Emission in Korea
- Korea's Efforts to Mitigate Global Warming
- Major Achievements in Energy Sector
- Challenges for the Future
- Korea as an attractive CDM Partner

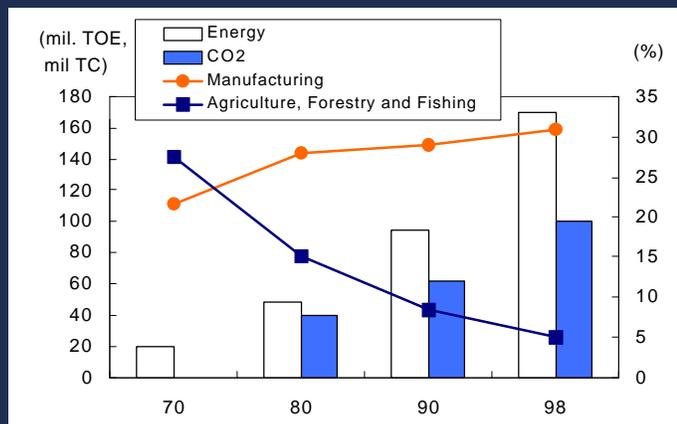


I. Korea at a Glance



II. Energy & CO₂ Emission in Korea

< Industry Structure, Energy Consumption, CO₂ Emissions >



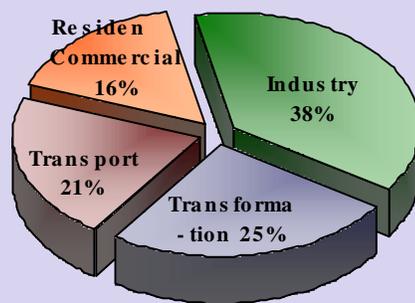
< Share of Energy Consumption by Sector >

Sector	1975	1980	1990	1995	1998
Industry	38.4	44.1	48.1	51.6	57.6
Transportation	9.9	13.0	18.9	22.3	19.8
Res. Com	45.3	37.3	29.3	24.1	20.8

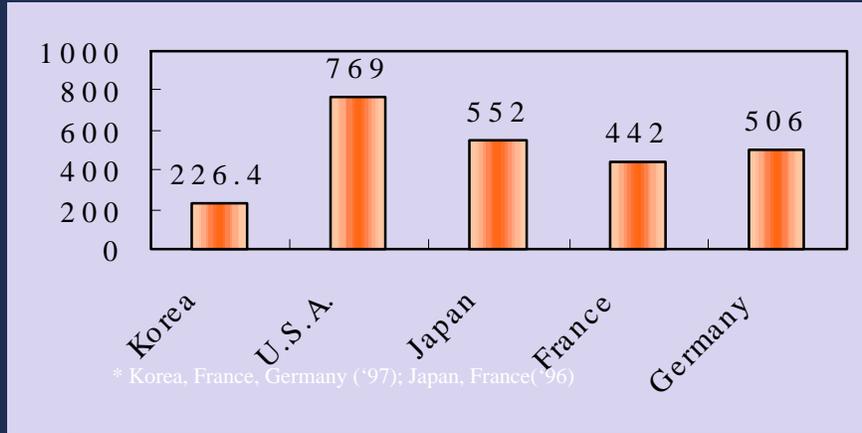
< Non-energy use in Total Primary Energy Supply >

	Korea	Japan	U.S.A.	France	Germany
1990	6.5	5.1	2.6	3.8	3.9
1997	13.7	6.2	2.8	3.8	4.6

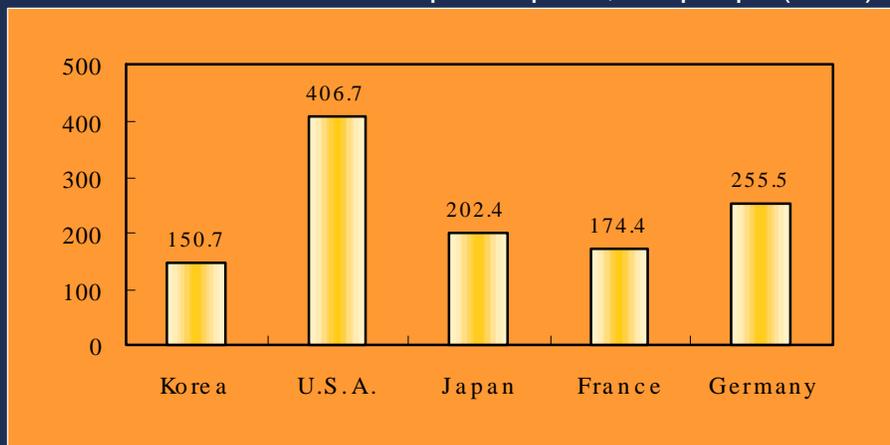
< CO2 Emissions by Sector, 1998 >



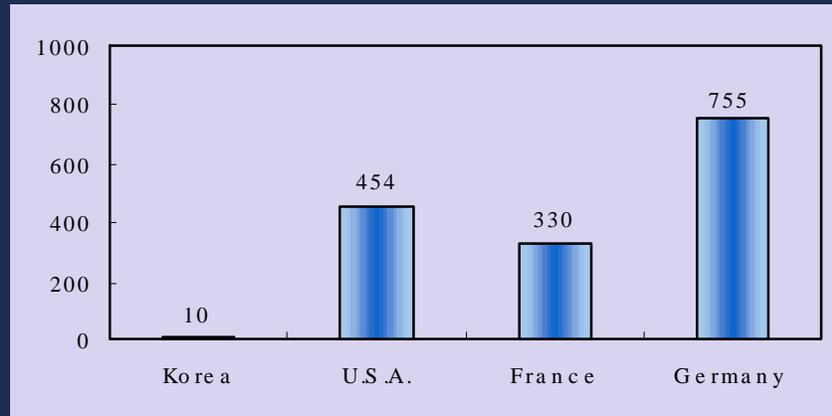
< Number of Passenger cars per 1,000 people >



< Number of Personal computers per 1,000 people(1997) >



< Number of dishwashers per 1,000 households(1996) >

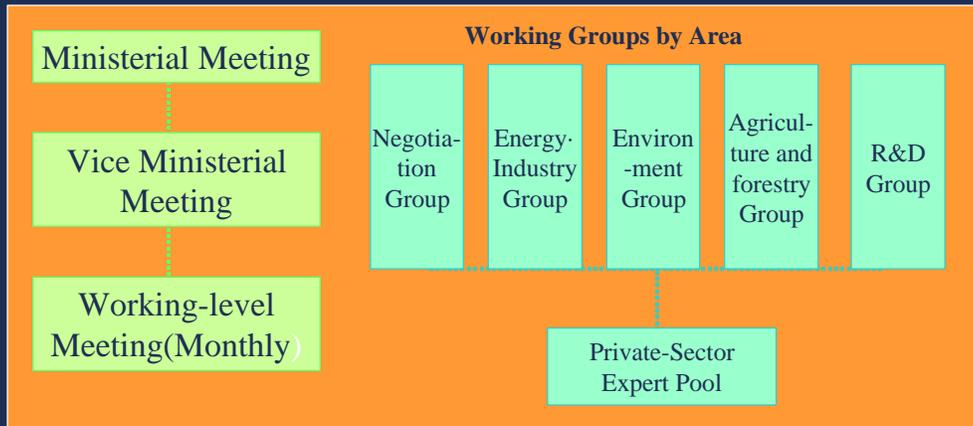


III. Korea's Efforts to Mitigate Global Warming

- Goals
 - Harmonization of 3E's
 - Active Participation in efforts to Mitigate Global Warming
- Principle
 - Common but Differentiated Responsibility
 - Partnership among Government, Industry and the Public
 - Inclusion of all kinds of Gases in Every Sector

○ A Framework for Effective Implementation

• *Inter-Ministrial Committee on FCCC*



• *Comprehensive Action Plan*

- Period : 1999-2000
 - Cycle of supervision and evaluation : yearly
 - Office responsible for supervision and evaluation : Office for National Policy Coordination
 - Cycle of updating the plan : every three years
 - Responsible for implementation : each ministry
 - Main content
 - Policies to reduce greenhouse gases by sector
 - Plans to compile statistics of greenhouse gas emissions
 - Plans to make use of the Kyoto Mechanism
- Two star icons are located at the bottom right of the slide area.

○ Energy Project Special Account

< Revenue >

- Import surcharges on petroleum and LNG(1.7US\$/bbl)
- Sales surcharges on Kerosene
- Safety management surcharges on LNG and LPG

< Expenditure >

- Promotion of LNG
- Energy Conservation
- Energy Technology R&D and NRSE Development
- Phasing-out of the Anthracite Coal Mines
- Others



< Budget of Energy Project Special Account >

	1985~1995	1997	1999	2000
Promotion of LNG	723.0	140.0	190.0	212.0
Energy Conservation	956.9	276.2	424.9	461.4
Phasing-out of Anthracite Coal Mine	422.2	18.4	1.2	8.1
Energy Technology R&D and NRSE Development	240.2	69.1	82.0	87.1
Sub-Total	2,342.5	503.7	698.1	768.6
Others	9,635.0	1,422.0	1,712.5	1,485.5
Total	11,977.5	1,925.7	2,410.6	2,254.1

* Average Won-Dollar exchange rate : 777.04('95), 950.95('97), 1,194.08('99)



IV. Major Achievements in Energy Sector

○ Energy Conservation & Efficiency Enhancement



• Voluntary Agreement

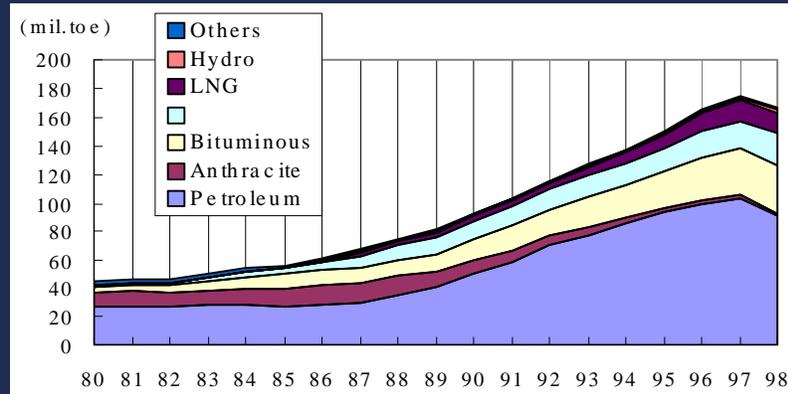
< CO2 Reduction Plan of Companies Participating in VA >

Year	Company (Business units)	Periods	Energy Consumption (10 ³ TOE /year)	Energy Reduction (10 ³ TOE)	CO2 Reduction (10 ³ TC)	Investment (bil.Won)	Reduction Rate (%)
1998	11 (15)	99 ~2003	18,012	1,360	1,426	1,098.3	10.9
1999 1 st	17 (31)	99 ~2003	3,951	574	470	290.0	14.6
1999 2 nd	17 (21)	2000 ~2004	6,257	552	403	161.1	12.2



○ Adopting a Less Carbon Intensive Energy Mix

< Energy Consumption Trend by Source >



• Nuclear Power Generation

< Producers of Nuclear Power(1997) >

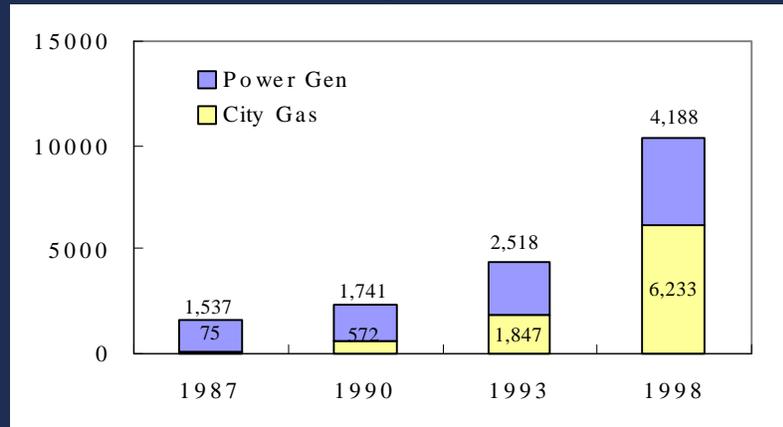
Country	% of nuclear in total electricity generation
France	79
Ukraine	45
Korea	32
Germany	31
Japan	31
United Kingdom	29
United States	18
Canada	14
Russia	13
Sweden	13
Rest of the World	10
World	18

Source : IEA 1999



• LNG as a Clean Energy

< Trend of LNG Consumption >



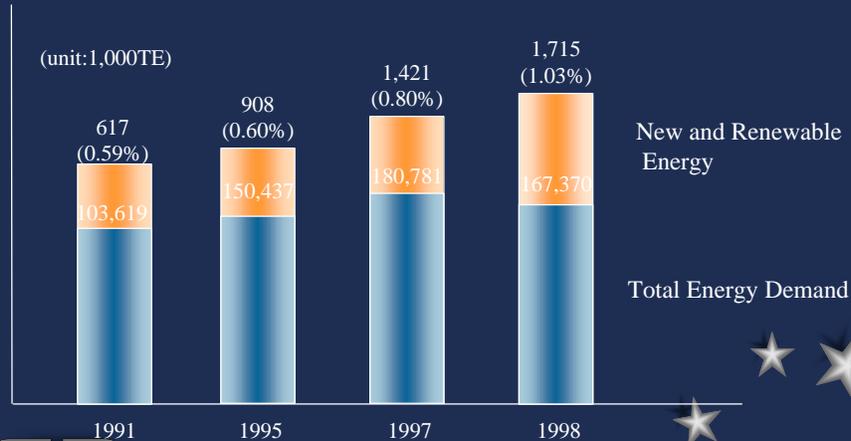
○ Energy Technology R&D and NRS E

Goals

- reduce total expected energy consumption by 10%
- supply 2% of total energy consumption from new & renewable energy, including solar energy, and
- secure clean technology for fossil fuels like coal and petroleum

• **Development of New and Renewable Sources Energy**

< New and Renewable Energy Consumption by Year >



IV. Challenges for the Future

- **Establishing a less Energy Intensive Industrial Structure**
- **Promoting an Environment-friendly Life Style**
- **Fully Incorporating Social Cost into Energy Prices**
- **Establishing A Cleaner Community**
- **New Technology Development**
 - Next Generation Nuclear Reactor Technology
 - Emission-Free or Low Emission Vehicles
 - CO2 Conversion Technology
- **Active Participation in International Cooperation related to the FCCC**

V. Korea as Attractive CDM partner

- Implementing diverse and comprehensive GHG reduction programs
- Government's Firm Commitment to GHG Reduction
- Korean Companies' Long-Standing Experience and Commitment
- Investor-friendly Environment

