

# Korea's Stockpiling Strategy

**Petroleum Stockpiling in the 21th Century**

**November 30, 2004**

**in Houston, Texas, U.S.**

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# Energy Supply & Demand in Korea

## Energy & Korea's Economic Growth

- High growth rate of energy consumption in the 1990 in parallel with the economic growth
- Since 2000, the rate has become stable, 3.1% in 2003

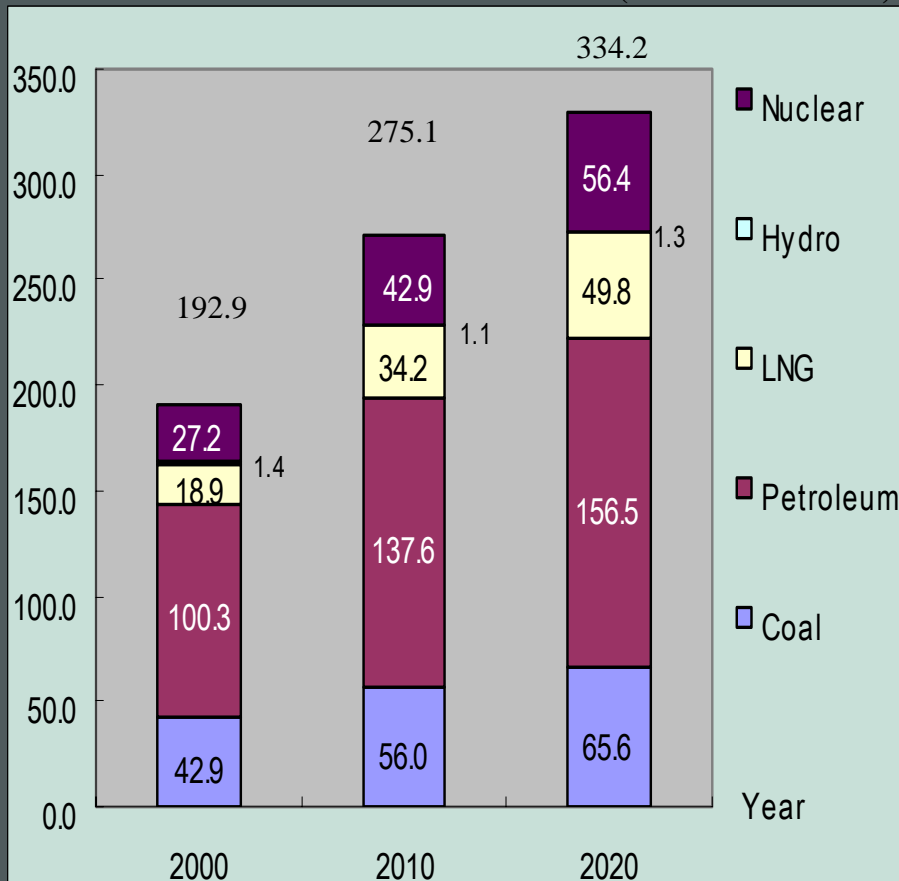
	'90	'97	'98	'99	'00	'01	'02	'03
Primary Energy Consumption (MTOE)	931.9	180.6	165.9	181.4	192.9	198.4	208.6	215.1
Increase (%)	14.1	9.3	-8.1	9.3	6.4	2.9	5.2	3.1
GDP Growth Rate(%)	9.5	4.7	-6.9	9.5	8.5	3.8	7.0	3.1

# Energy Supply & Demand in Korea

## Long-term Demand Forecast

### Energy Demand by fuel

(Unit: Million TOE)



Source: KEEI, May 2001

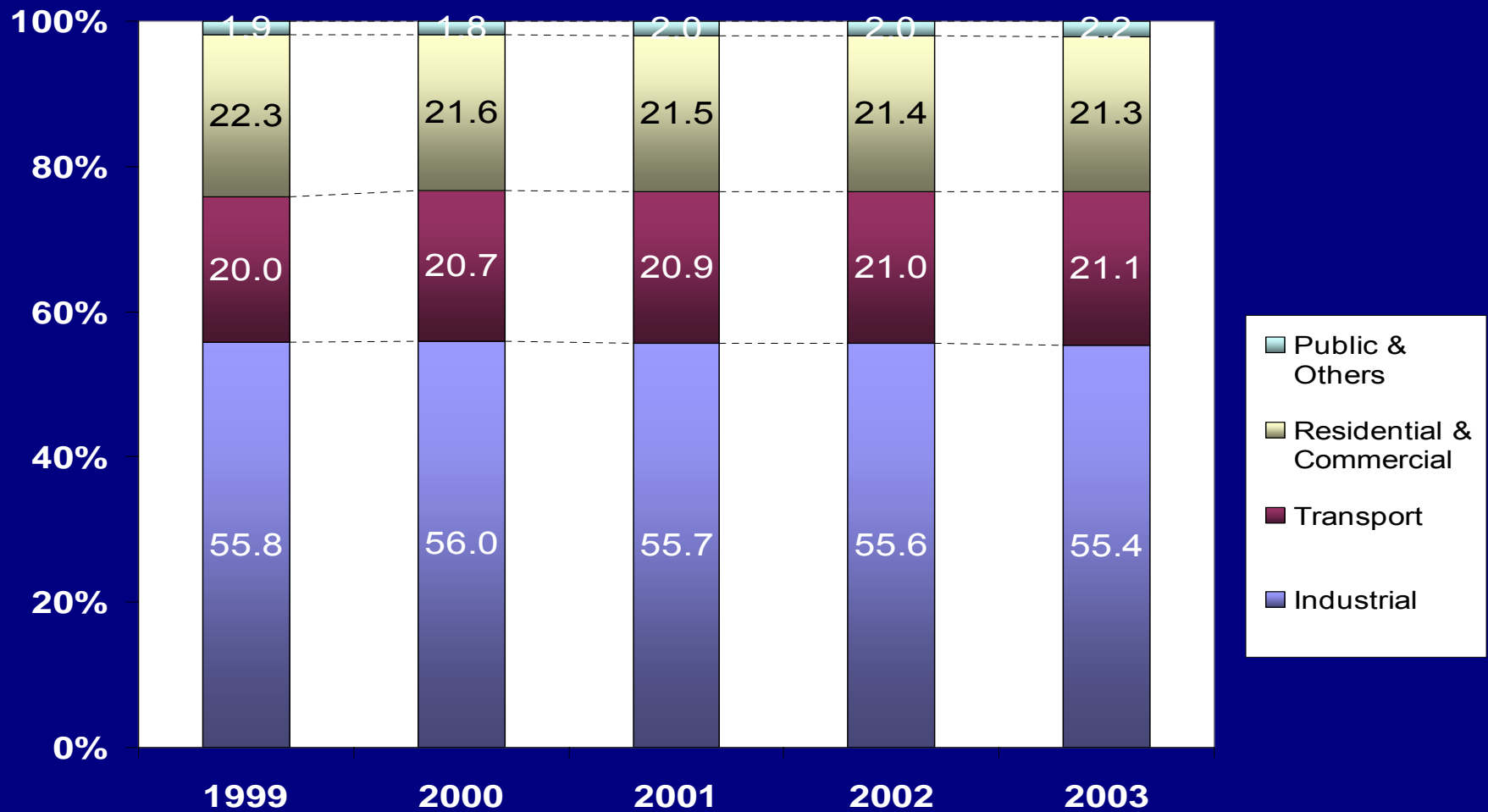
Dependence on oil will decrease, but oil will remain as the most important fuel

Demand for LNG is projected to grow by 5.0% per year

Coal and nuclear energy is projected grow steadily along with electricity demand growth

# Energy Supply & Demand in Korea

## Share of Energy Consumption by Sector



# Vulnerability to an Energy Crisis

- High dependence on overseas energy



- Korea ranks high in the world energy consumption

- 10th energy consumer
- 4th oil importer
- 2nd coal and LNG importer

- Overdependence Middle East

- Crude Oil (2003) 79.5%
- Natural Gas (2003) 54.8%

# Lessons from the Past Oil Crises

## Impact of the two oil crises on Korean economy in the 1970s

	International Oil Market		Effects on Korean Economy	
	Oil Shortage	Increase of Oil Prices	Economic Growth	Increase of Oil Prices
1st Oil Crisis	7.40%	3.9 times	11.8=>> 6.7	3.7 times
2nd Oil Crisis	8.60%	2.3 times	6.8 =>> Δ4.3	2.8 times

- No strategic oil stockpiling and emergency response measures led to the serious oil supply disruption and the economic decline.
- The crises led the Korean government in 1979 to establish Korea National Oil Corporation (KNOC) to start strategic oil stockpiling, manage the oil business buffering fund and other measures including overseas oil development.

It is quite unique that Korea started the building of strategic oil reserves without participation in international institutional framework.

# Lessons from the Past Oil Crises

## Government Response to the Gulf War

### ● During the Gulf war, Korea

- held sufficient strategic stocks and oil crisis buffering fund.
  - released strategic oil stocks(4.94 million barrels).
  - imposed energy demand restraint measures.
  - promptly ran the emergency task force.
- ➔ As a result, the impact was successfully minimized.

### ● After the Gulf war, Korea

- decided to increase strategic oil stocks in a steady way.
- comprehensively improved the emergency plan.
- began cooperating with International Energy Agency.

# Short-term Energy Security Policies and Stockpile

## Short-term Emergency Plan Activated during US-led Iraqi War in 2003

### ● Basic Policies

- To stabilize the Korean economy and alleviate the fear of Koreans about oil supply disruption, the government utilized as much effort as possible
- To minimize domestic oil price hike, the national taxes on oil products and the surcharge on oil imports lowered and the oil crisis buffering fund was used.
- The release of oil stocks and the implementation of demand restraint measures adjusted the imbalance of oil supply.
- Voluntary and mandatory energy conservation was carried out.

### ● Activation of the three-Phase Contingency Plan

- The plan is based on the 10-day moving average price of Dubai oil.

# Short-term Energy Security Policies and Stockpile

## Stage 1: oil price remains below 32U\$/B

- **Response Measures**

- **Monitoring of international and domestic oil markets**
- **Establishment of “Emergency T/F”**
- **Energy conservation campaign through the mass media ; encouraging voluntary energy conservation such as driving-ban once in every ten days (by automobile plate number), the shortening of large electricity consumption, etc.**

# Short-term Energy Security Policies and Stockpile

Stage 2 : oil price moves between 32U\$/B and 35U\$/B

## ● Response Measures

- Import tariffs and tax cut;

as for tariff : oil products from 7% to 5%, crude from 3% to 1%

as for tax : Special Excise Tax, Transportation Tax

- Compulsory Energy Conservations are enforced such as limiting the operating hour of neon-signs at stores, business hours in department stores, and driving ban on every 10 day, etc.

# Short-term Energy Security Policy and Stockpile

Stage 3 : oil price increased over 35U\$/B

- **Response Measures**

- **Additional Tariff and Tax Cuts**
- **Release of Strategic Oil Reserve in close collaboration with the IEA and its member countries**
- **Imposing domestic oil price ceiling**
- **Controlling domestic supply and demand of oil**

# Mid-to-Long-term Stockpiling Policy

## Secure the Basis for Stable Energy Supply

### ● Oil Stockpiling

- Strategic and private stockpiling started from 1980 and 1992 respectively
- As of the end of Oct. 2004, 110 days of strategic oil stocks are held by KNOC for 54days and by private sector for 56days.

### ● In April 2002, the 3rd Government Stockpiling Plan was Adjusted

- reflected the changes in consumption patterns and industrial structure due to IMF crisis in 1998
- Goal for strategic oil stockpiling : 141 million barrels of oil stocks by 2007 and 146 million barrels of storage facilities by 2008

### ● Changes of Goal after April 2001(the Invitation to IEA )

	Apr- 01	Jul- 03
Total Stocks (Million Barrel)	137.0	156.9
Days of Net Imports	90.6	108.8

# Conclusion

- The oil crises contributed Korea to decide building of strategic oil reserves.
- The decision was quite voluntary because Korea did not have relations with IEA.
- International cooperation strengthened the stockpiling policy.
- Strategic oil reserves has been an effective oil security policy tool with other policy options for oil consuming economy
- As far as Korea will depend high on oil, strategic oil reserves will be crucial for alleviating oil supply disruption.

# Thank you !

