

# **Crude Oil and Product Price Outlook: Rising to the Challenge**

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**Northeast Asia Petroleum Forum**

**September 21, 2005**

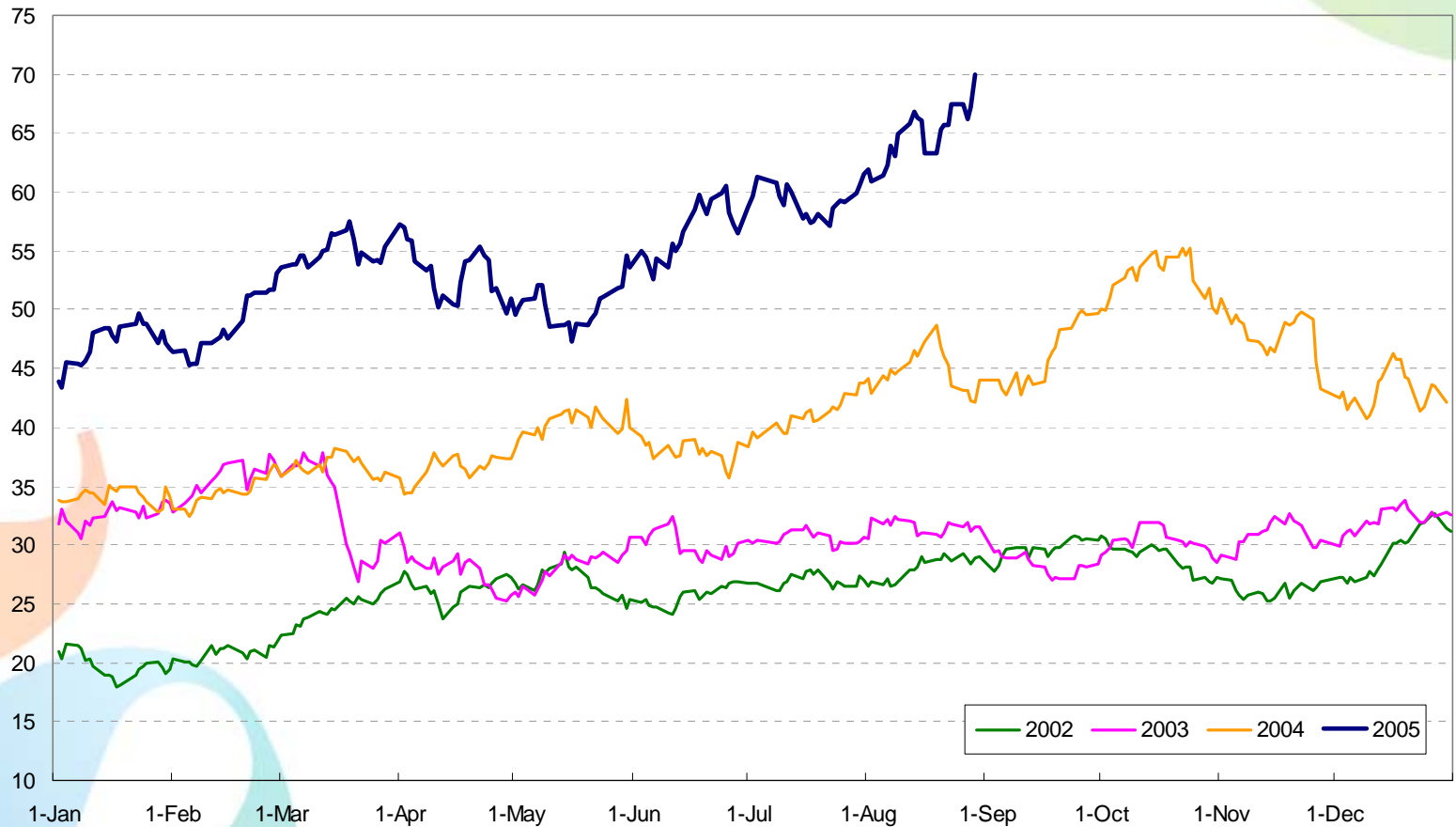
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# Introduction

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## Will the Market continue to stay strong and rise ?

### WTI PRICE TREND FOR THE LAST 4 YEARS



# Factors that drive the market changes

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**Multiple factors are moving the market changes with complexity.**

**China & India's Strong Economic Momentum**

**Bullish Deferred Price & Higher E&P Cost**

**Increased Uncertainty regarding Secure Supplies**

**Depletion of Non-OPEC Production**

**Continued Flow of Investment Money**

**Tougher Environmental Regulation**



**Significant Market Change and High Volatility in Price**

# Factors that drive the market changes

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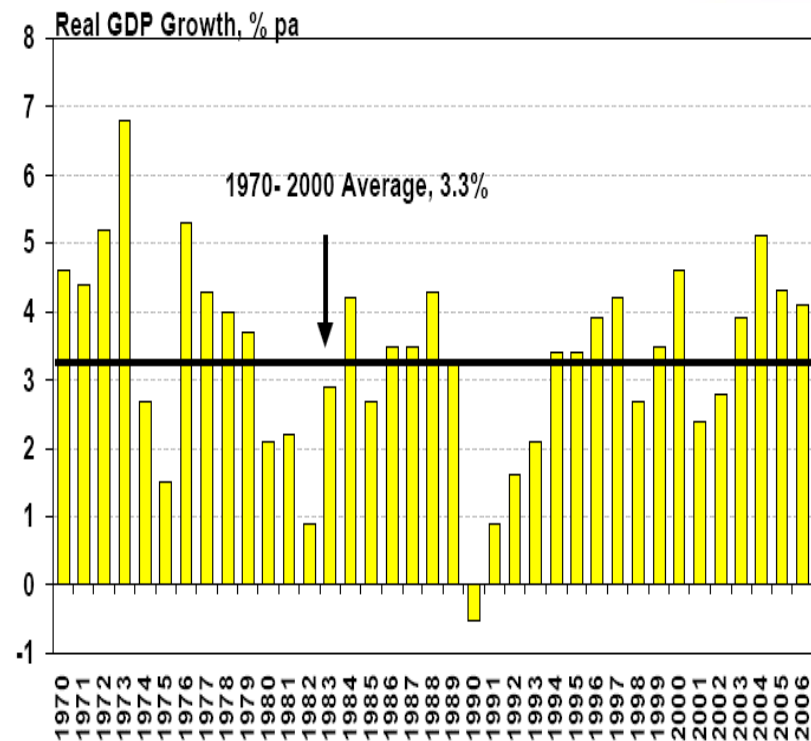
We are in the peak period of global economic growth .

## Global Economic Growth Outlook

	2004	2005(E)	2006(E)
S. Korea	4.6	4.5	5.3
China	9.5	8.8	8.5
Japan	2.7	2.0	2.8
US	4.2	3.4	3.1
Euroland	1.7	1.1	1.7
Russia	7.2	5.6	5.0
Taiwan	5.7	4.5	5.0
India	8.2	6.3	6.7
Canada	2.9	2.7	2.9
Brazil	4.9	3.9	4.1
World	4.7	3.9	3.9

Source : Goldman Sachs Economics Research, Aug.17, 2005

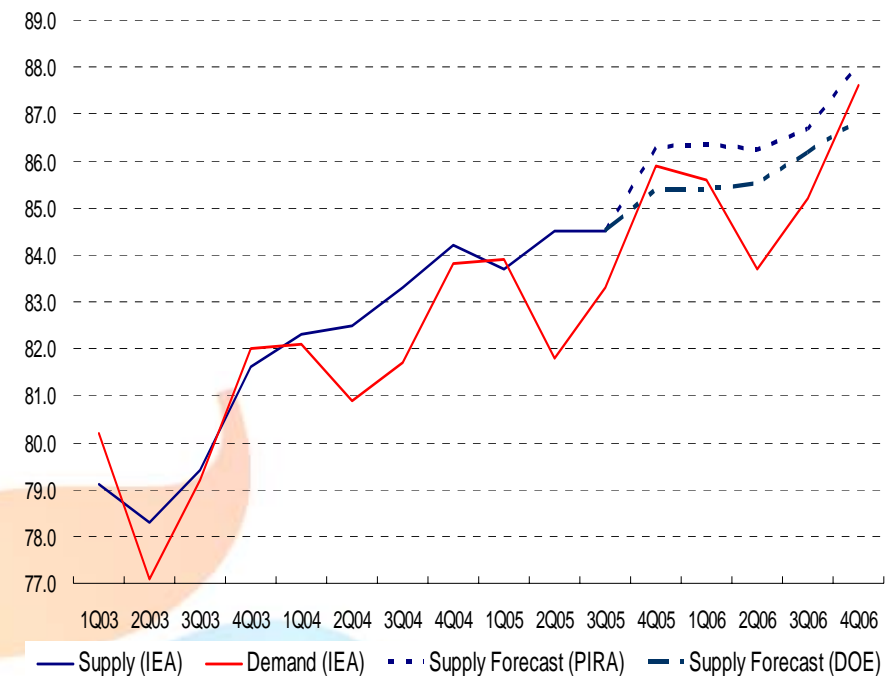
## World Economic Growth Trend



# Factors that drive the market changes

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## World Oil Supply Demand Balance



## OPEC Basket Price (Jan~Aug '05)



# Changes in Price Structure

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On top of change in crude oil price in extensive scale, other significant changes in the price structure is prevailing.

**High Volatility in Price**

**Large Differential between Sweet and Sour Crude**

**Large Differential between Light and Heavy Product**

**Sulfur Premium**



**Need to Setup new Strategy to cope with these Challenges**

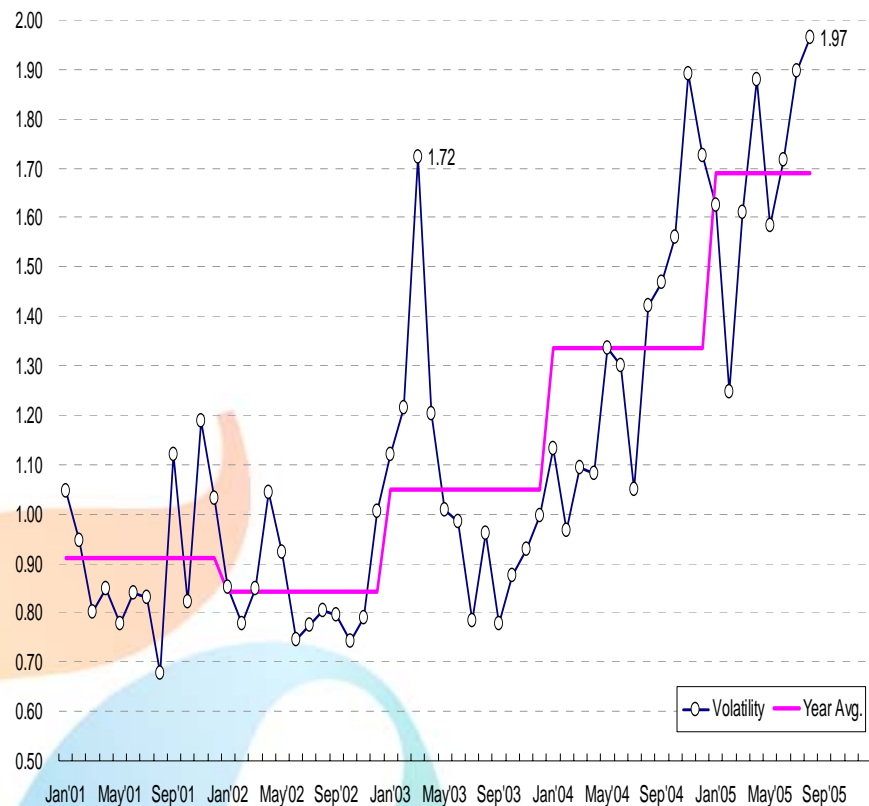


# Changes in Price Structure

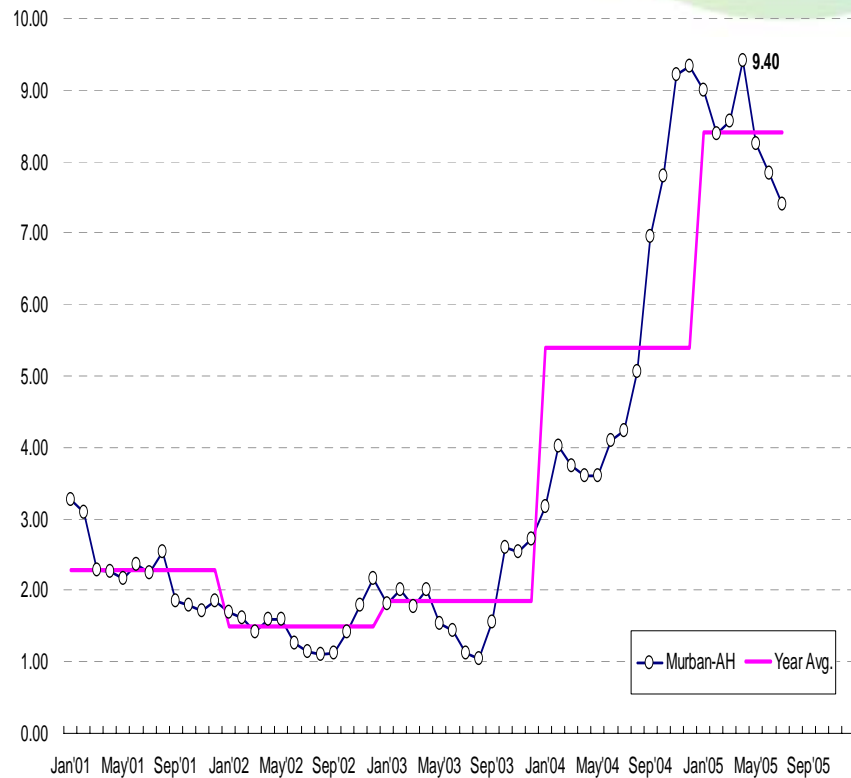
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In addition to spike in price, volatility in crude price and price differential has increased.

## Volatility of NYMEX WTI Price



## Sweet/Sour Crude Spread (Murban/AH)



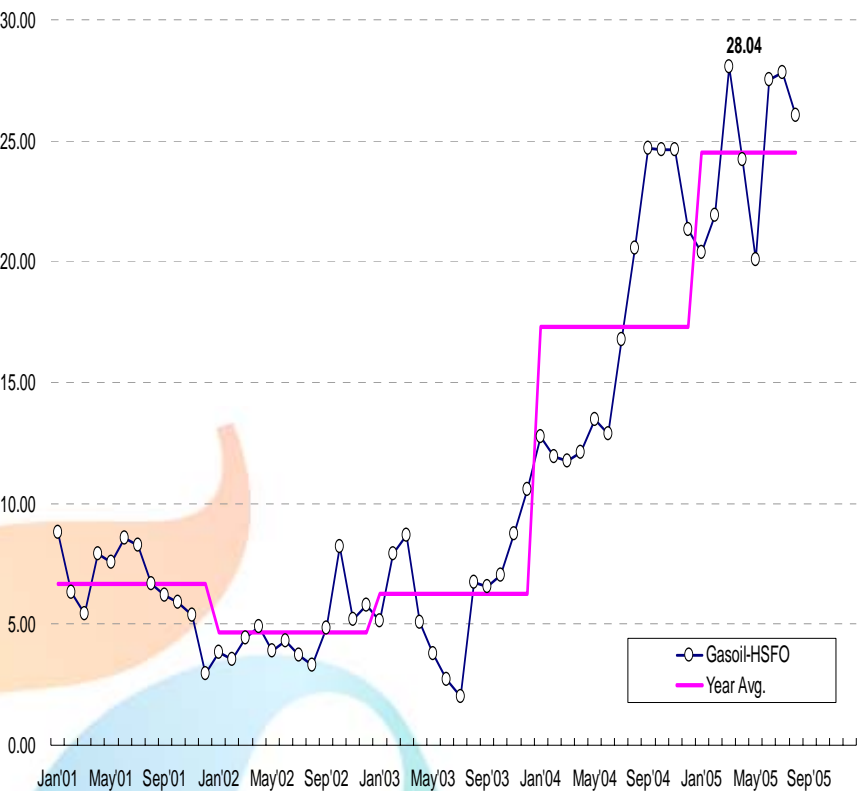


# Changes in Price Structure

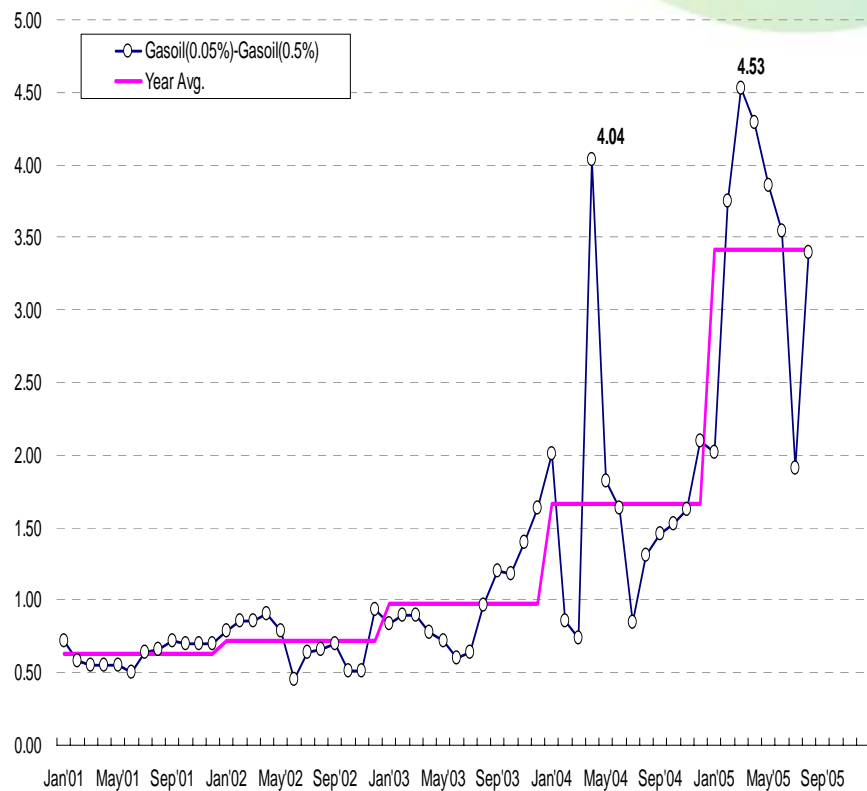
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Differential trend between grade and sulphur content also shows significant change.

## Gasoline - HSFO Price Spread



## Gasoline(0.05%) –Gasoil(0.5%)



# Other Factors influencing the Oil Industry

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## 4-1) Korea's Economy Outlook

### Emerging (~1987)

Until the mid 80's, Korea joined the ride in global economical growth thru labor intensive commodities but inflation, deficit and faltering of competitiveness of enterprise were co-existent.

During the mid 80's ~ end of 90's, Korea promoted open market economy

### Globalization (1987~1997)

After getting over the financial turmoil, Korean Economy was experiencing a sluggish economical growth as it faced a decline in investments, rise in unemployment, and rapid increase of the aging population

### Paradigm Shift (1997~)

It is forecasted that Korean economy growth in 2005 is estimated to be only around 4% and this trend will continue for the time being.

Excluding specific product such as Diesel, domestic consumption of petroleum product has almost reached its plateau and needs to aggressively seek a foreign market due to surplus in capacity.

# Other Factors influencing the Oil Industry

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## 4-2) Environmental Regulation (Kyoto Protocol)

### Change in business environment

- Introduction of new policy by the government
- Development of new technology and establishment of a new market
- Increase in preference for Eco-friendly enterprises

### Crisis

- Constraints on Business Activity
- New Barrier in Trading Activity
- Modification in structure of existing Market
- Consumer's boycotting of product
- Faltering of Company's image

### Opportunity

- Improvements in Process and reduction of cost through development of technology
- Strengthening the current position through acquisition of new technology
- Create new business
- Establishment of sustainable management system

# . Other Factors influencing the Oil Industry

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## 4-3) Supply and Demand

**China, the decisive country in influencing the supply/demand balance, will have to depend on imports in the near term considering the gap between expansion of the refining capacity and rapid demand growth.**

**India will play the role of net exporter by accelerating the establishment of new facilities which exceed its demand growth.**

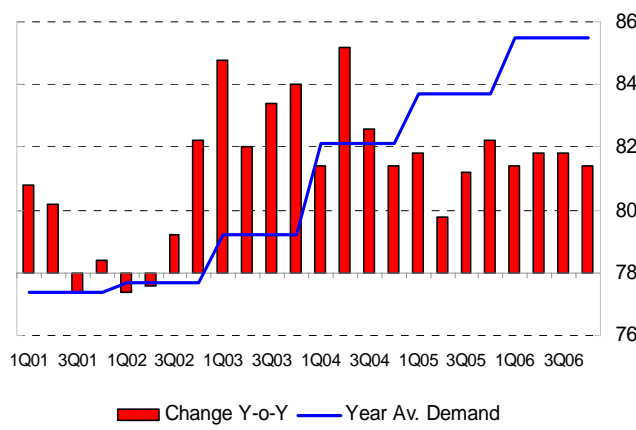
**Overall, the shortfall of product is predicted to continue due to global economic growth and limited refining capacity . Refining margins are likely to remain relatively healthy in the near term.**

# Other Factors influencing the Oil Industry

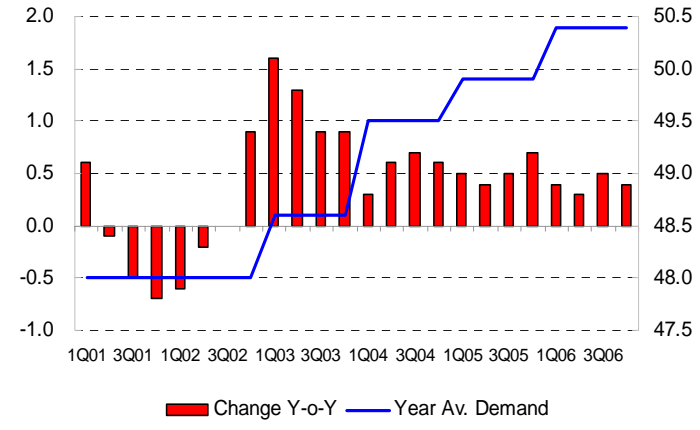
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## 4-3) Supply and Demand – Especially China

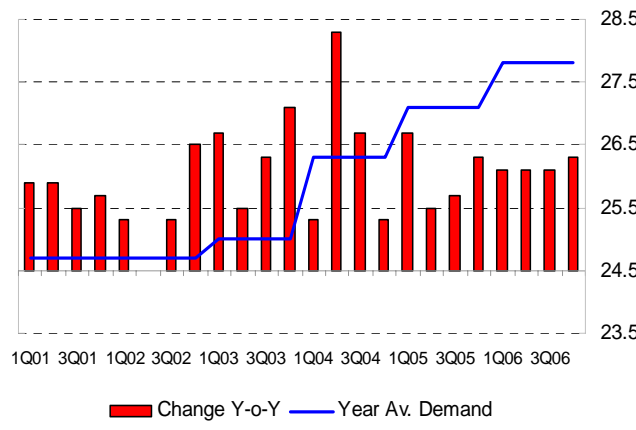
World, Oil Demand



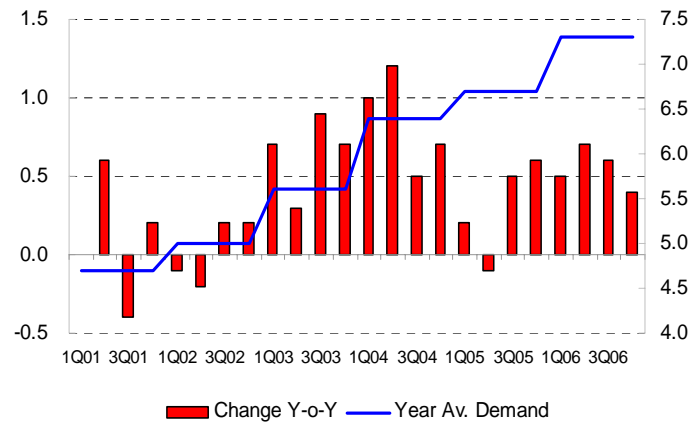
OECD, Oil Demand



Non-OECD less China, Oil Demand



China, Oil Demand



### Y-o-Y Change in Demand

<2004>

- \* World : +2.9 mmb/d (+3.7%)
- \* OECD : +0.9 mmb/d (+1.9%)
- \* Non-OECD less China : +1.3 mmb/d (+5.2%)
- \* **China : +0.8 mmb/d (+14.3%)**

<2005>

- \* World : +1.6 mmb/d (+1.9%)
- \* OECD : +0.4 mmb/d (+0.8%)
- \* Non-OECD less China : +0.8 mmb/d (+3.0%)
- \* **China : +0.3 mmb/d (+4.7%)**

<2006>

- \* World : +1.8 mmb/d (+2.2%)
- \* OECD : +0.5 mmb/d (+1.0%)
- \* Non-OECD less China : +0.7 mmb/d (+2.6%)
- \* **China : +0.6 mmb/d (+9.0%)**

# Long Term Price Forecast

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## 5-1) Long Term Price Forecast by analysts

### WTI Price Forecast



## 5-2) Market Comments

**Oil price forecasters/consultants have predicted high oil prices for the next 15 years.**

**Crude prices are likely to remain bullish due to supply/demand imbalances and periodic surges in speculative fund trading and political unrest .**

**Unpredictable and destabilizing events such as terrorism, accidents, strikes and weather will significantly impact supply stretching a market that already lacks of spare capacity.**

**Unlike the past, the current capability of the global economy is enough to withstand continued high crude oil prices.**

**Overall, the shortfall of product is forecast to continue due to robust global economic growth and limited downstream capacity, leaving refining margins relatively healthy**

## General Remarks

**Korea is the 5<sup>th</sup> largest oil importing country in the world and spends 20% of its revenue on energy resources.**

**Rises in crude prices lead to increases in petroleum product prices which result in weakening of competitiveness in exports due to basic cost increases.**

**Considering the strong dependency on oil imports, the rise in demand will result in an increase of imports and declining exports -- this ultimately aggravates trade balance leading to slowdowns in the domestic economy.**

**Sudden changes in cooperation management are also a burden in coping with this challenge . However, these can be perceived as the beginnings of a new era and new opportunities to be seized if we prepare ourselves properly.**



## 6-1. Expand upgrading Capacity and Facility

*Korean Refineries have demonstrated investment strategy oriented towards increasing the scale of refining capacity in order to support demand during economic growth.*

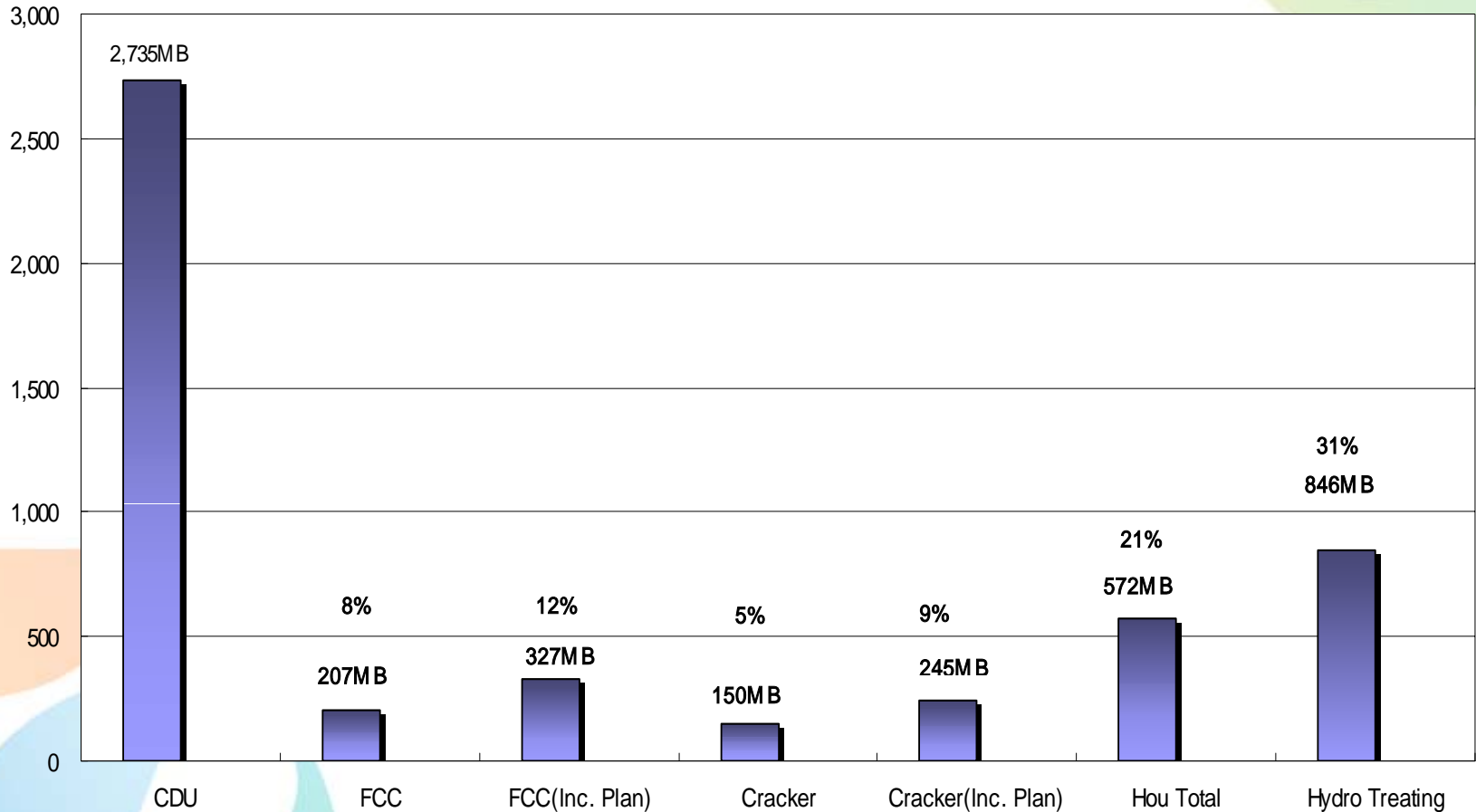
*It is necessary to undertake plans for investment and front run facilities in synchronization with the changing environment.*

*Considering the characteristics of the refining industry , ongoing support and cooperation from the government is essential.*

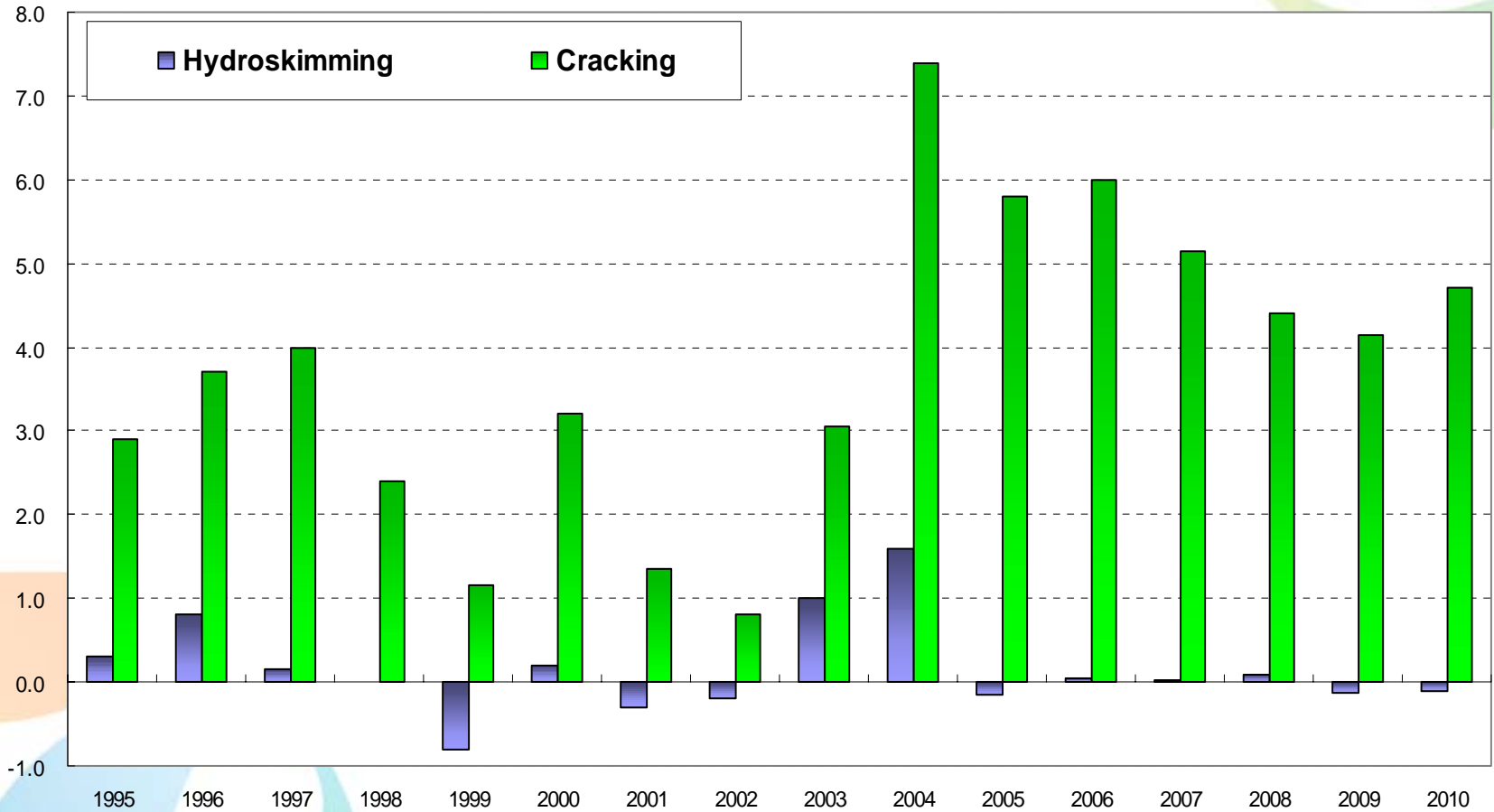
*In GS Caltex's case, it is speeding up its construction of 150MBD vacuum distillation unit and 55MBD hydrocracker which are expected on-stream by 2007 to adapt to rapidly changing market conditions*

*To cope with the high volatility in price, companies need to expand their storage capacity, the government should increase its reserves and establish an optimal supply logistics system to enhance efficiency.*

## Korea's Refining Capacity is about 2,735MB with limited Upgrading units.



**Due to changes in demand patterns, the differential between simple and Cracking Margin is widening significantly**



Source : Facts Energy Advisory

## **6-2) Energy Business Diversification**

Korea's Petroleum Market has entered a phase where demand has slowed and the market has become saturated.

It is time to diversify those segments of the business landscape offering high growth potential.

Considering the changes in the economy and environmental regulation, it is imperative to diversify the main business domain into Petrochemical, Gas, Power generation/distribution and Fuel Cell which are Eco-friendly and technologically sophisticated energy sources.

## **6-3) Diversify the Crude import source**

To alleviate the factors influencing the price risk, we should break away from purchasing crude from specific territory and vigorously examine the possibility of importing new grades and sources of feedstocks.

Crude from the Caspian, West Africa, Sakhalin and Canadian Oil Sands where out is expected to rise, should be reviewed as alternative energy sources.

Northeast Asian Countries should collaborate on co-freighting policy or devise other methods such as utilizing long-distance pipeline to reduce the transportation costs and address potential energy security threats.

## **6-4) Expand the E & P project**

Three nations import about 24% of the global crude import volume; hence, crude cost becomes a crucial factor in charting the future economic growth of importing nations.

Importing countries and corporation must extend the search for independent sources of energy.

GS Caltex's efforts have been successful to date in finding sweet crude from 4 wells in Cambodia block A. The Company is presently examining the economical feasibility of commercial production .

## **6-5) Diversification of sales outlets and strengthening of business alliances among the neighboring countries**

The intra-trade between countries that have entered into the FTA has become more critical. The coalition among the neighboring countries can enhance mutual optimization.

China has already proven itself as our largest energy market. The business relationship with Japan should be strengthened further especially in technology and finance.

# Conclusion

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**Living in front of the flood of change**

**Accurate analysis of current phenomena**

**Adequate selection of and concentration on effective strategies**

**Create distinguished quality and competitiveness thru active implementation**



**Thank you !**

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