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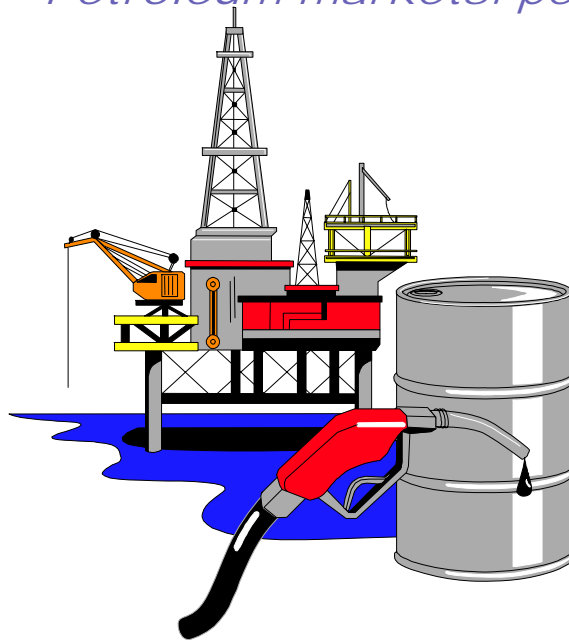


Presentation to: Atlantic Institute for Market Studies

Halifax, Nova Scotia - July 20, 2006

Fuel for Thought

Petroleum markets: perspectives and outlook



Carol Montreuil
Vice-President,
CPPI – Eastern Canada



On understanding the issue...



- **Communication on this issue...a challenge !**
 - Consumers, our clients are frustrated and suspicious...
 - Governments under a lot of pressure 'to do something'
 - All sectors of the economy are impacted.

- **High prices & volatility at core of the debate**
 - Paradox: retail market volatility is a sign of healthy competition
 - Reputable firms have predicted price of crude above 100\$/bbl!
 - Fundamental question: are we facing a structural change?

- **Complicating the communication issue further:**
 - Debate politicized
 - Demagoguery by certain stakeholders distorting facts for public appeal

- **Today's discussion :**
 - Review and understand key facts



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Petroleum markets : perspectives & outlook

The issue of predictions...



■ When and how much ?

■ Predictions

- CPPI stays away from this mine field
- Many specialists/analysts take positions
- Who should you believe ? Can anyone help ?

■ Let's review their performance...

“In the business world, the rearview mirror is always clearer than the windshield.”

Warren Buffet (1930-)



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Some of the best organizations...



**NATIONAL
PETROLEUM
COUNCIL**



**Natural Resources
Canada**

**Ressources naturelles
Canada**





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Difficult market to predict

2004 actual – \$40-\$42 /bbl depending on crude type

2005 actual – \$50-\$55 /bbl depending on crude type

Forecast	2004	2005
EIA	\$23.57	\$23.30
GII	\$22.04	\$21.77
IEA	\$22.02	\$21.75
PEL	\$21,23	\$20.96
PIRA	\$24.07	\$23.80
NRCan	\$22,84	\$22.57
DB	\$18.14	\$18.13
EEA	\$21.26	\$20.99
NPC	\$18.27	\$18.00
SEER	\$21.35	\$21.08
CGES	\$24.09	\$23.82
Average	\$21.72 /Barrel !!!!	\$21.46 /Barrel !!!!!

Source:
AEO 2002
AEO 2003
AEO 2004





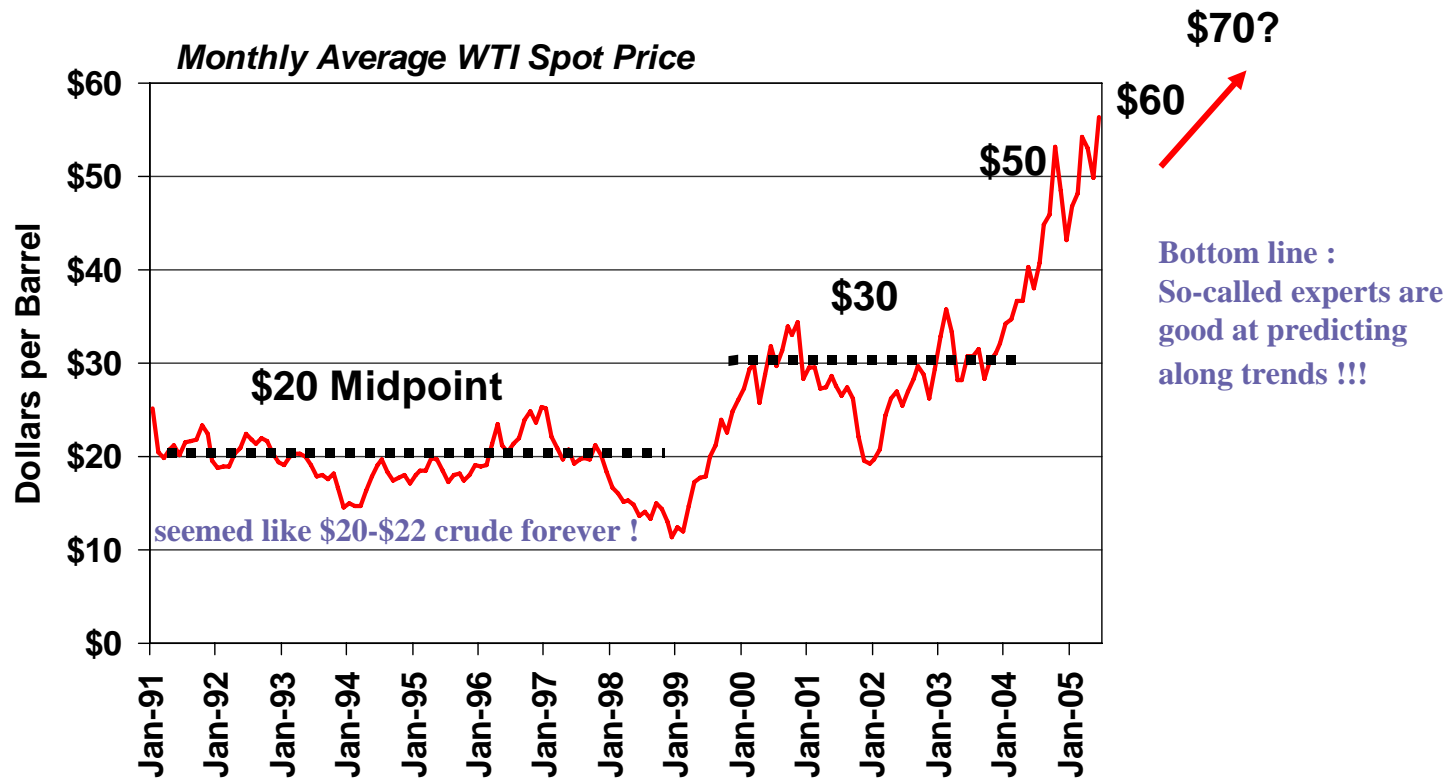
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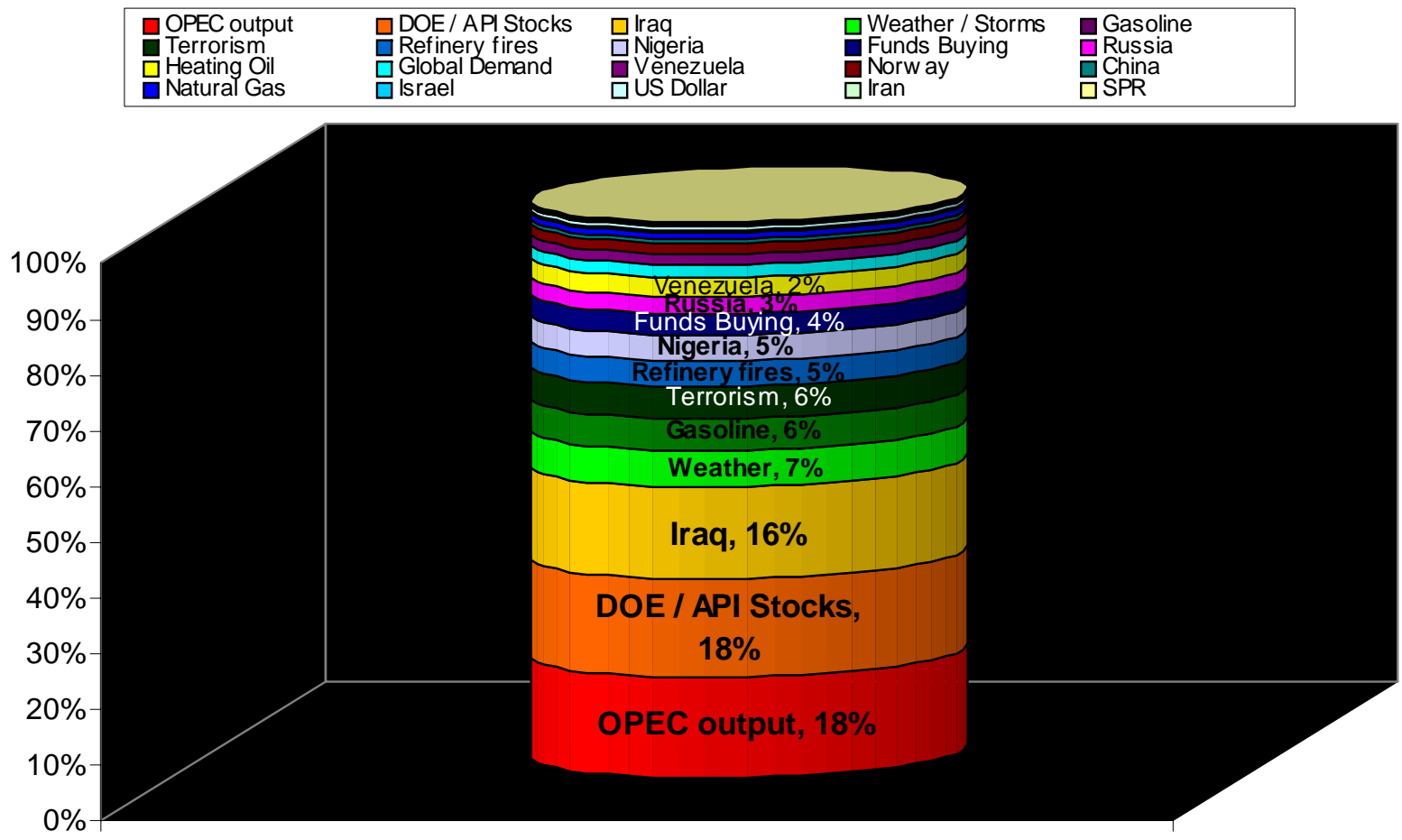
The issue of predictions...

No one predicted the trend that started in '99 !



Source: Reuters

Predicting in a complex world...



Factors Cited By Analysts For All Price Movements



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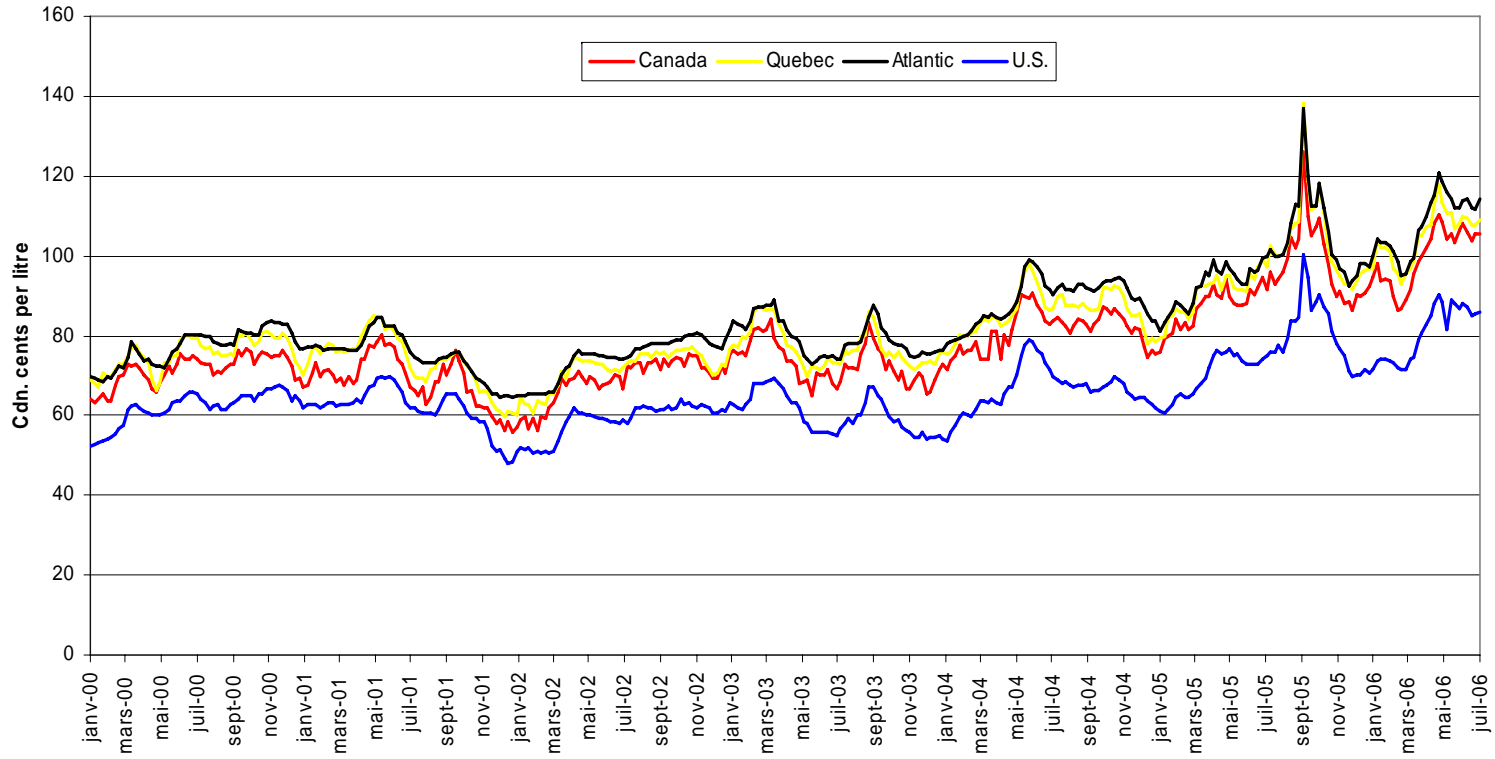
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The bottom line for consumers



Whatever the reasons, consumers must face the end result...

Pump prices – Regular unleaded





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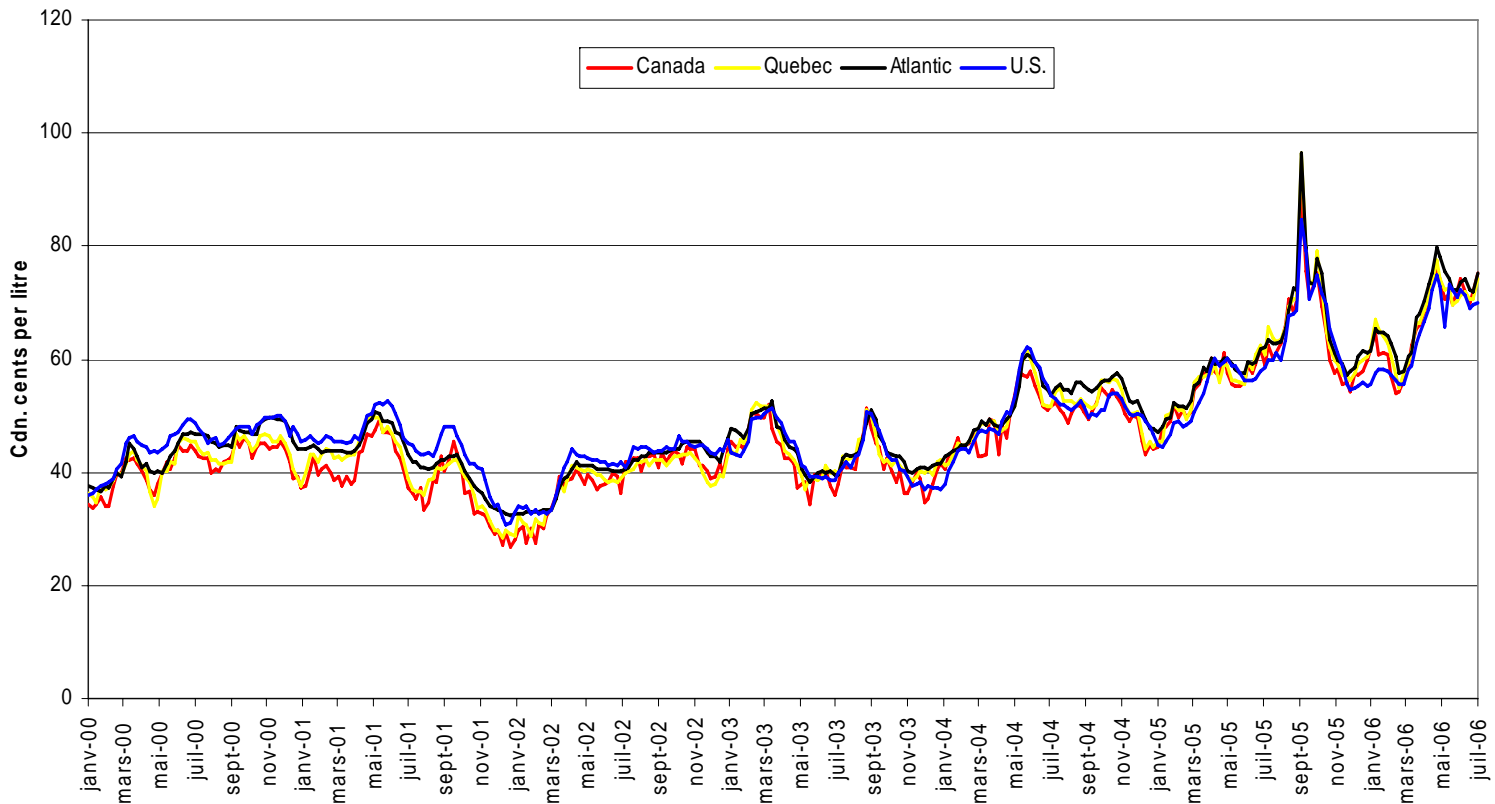
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The bottom line for consumers



However, situation is the same in every market!!!

Pump prices ex-tax – Regular unleaded





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The bottom line for other energy costs



- “Oil, still a significant utility fuel in several parts of the country, is now at record price levels. The prices of oil-based fuels delivered to electric generators have risen 50% between 2003 and 2005 and are now at the highest nominal levels ever recorded.”
- “Moreover, the Energy Information Administration (EIA) expects oil prices to remain at these high levels for the foreseeable future.”

-- Electric Perspectives, July/August 2006



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The three markets impacting prices



Spending more time understanding instead of predicting...

■ International market of crude



■ International and continental markets of finished products



■ Local retail markets

- Little impact in events of recent years
- Lesser portion of today's discussion





All markets respond to same signals



- Economic law of supply and demand at the foundation of all explanations
 - Real and speculative supply & demand

- Supply side:
 - Production & import/export capacity
 - Geopolitics (Iraq, Iran, Nigeria, Venezuela, etc.)
 - Refining issues (hurricanes, shutdowns, etc.)

- Demand side :
 - Asian growth (China, India)
 - American economy (SUVs, growth)

- Inventories
 - Critical equilibrium indicator



The international market



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International market currently driven mostly by geopolitics





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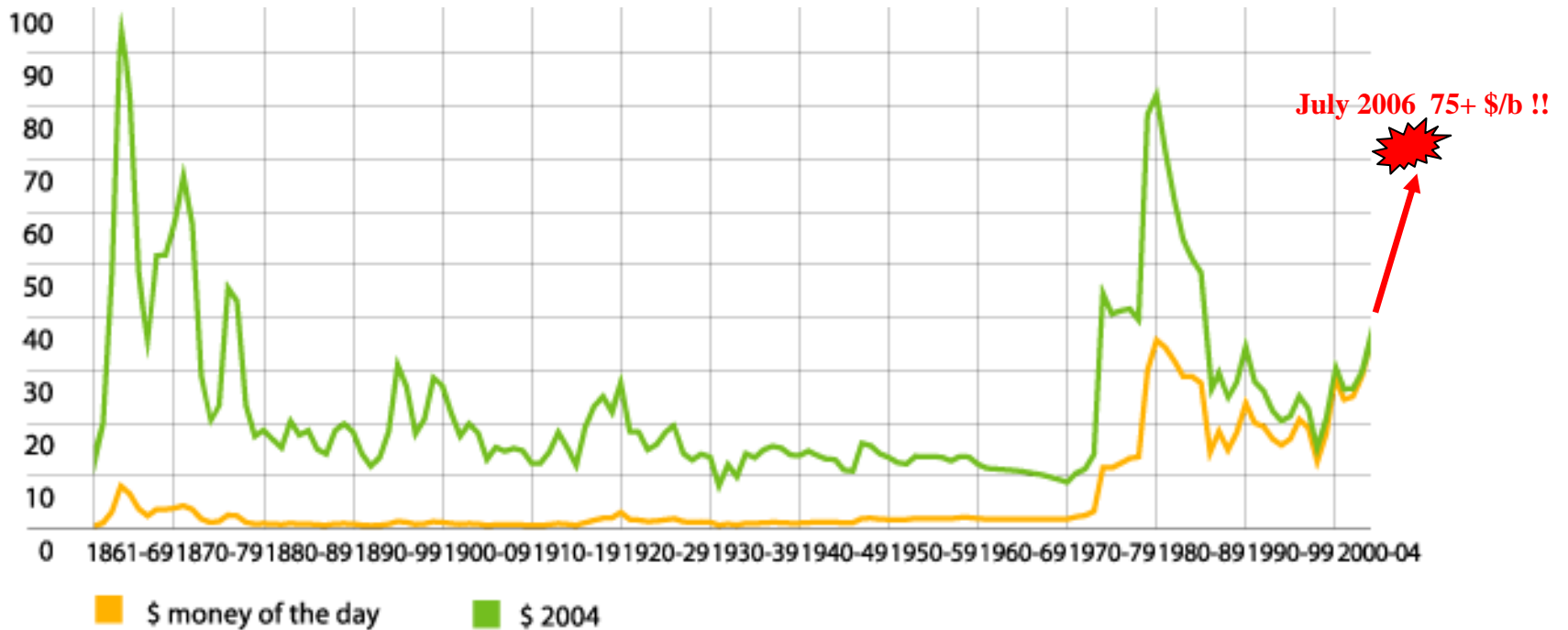
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International market currently driven mostly by geopolitics



In terms of constant 2004 dollars, we are approaching the record high of \$80 /barrel



1861-1944 US average.
1945-1983 Arabian Light posted at Ras Tanura.
1984-2004 Brent dated.



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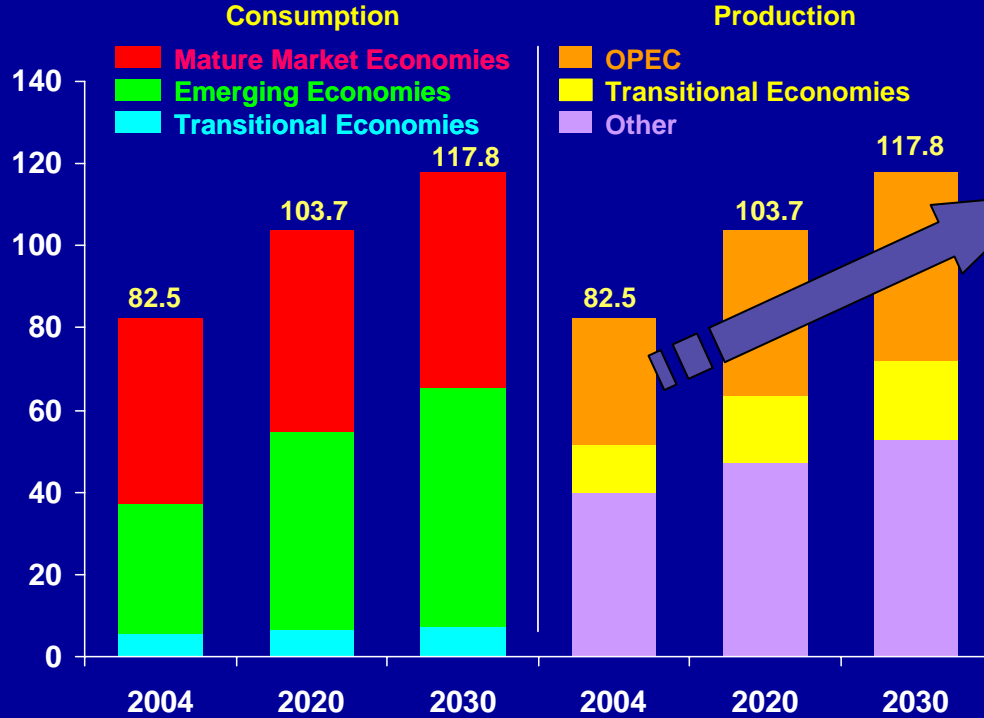
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Influence of OPEC



World Oil Consumption and Production, 2004, 2020, and 2030 (million barrels per day)



Analysts
expecting a lot
from OPEC



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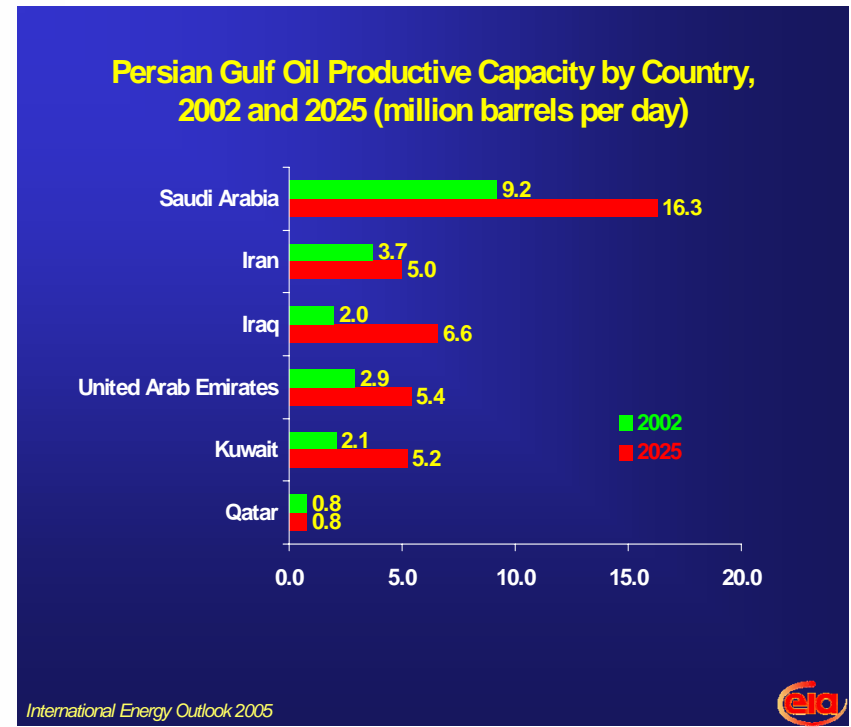
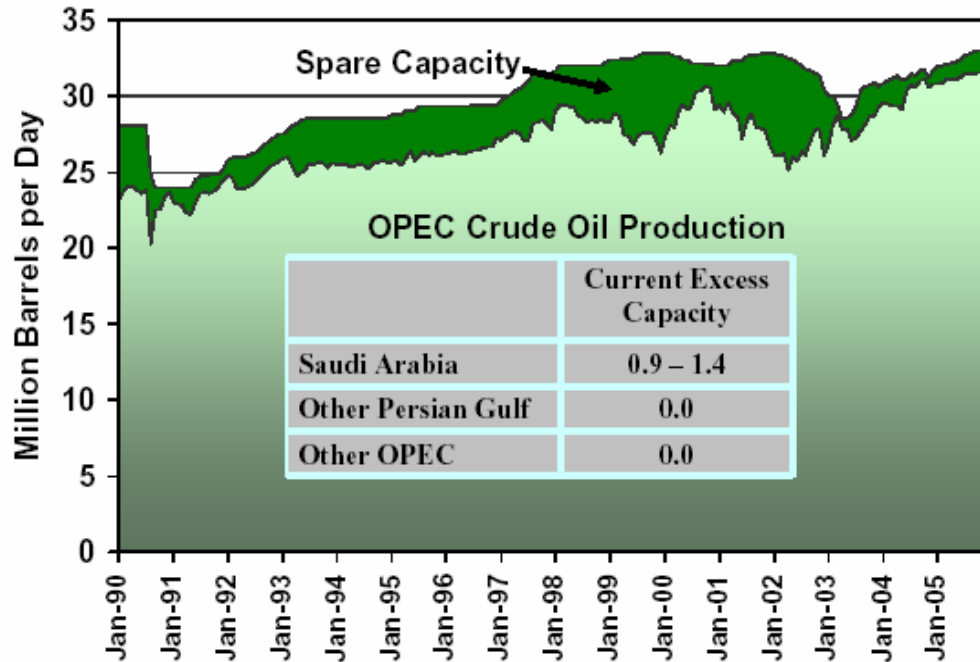
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Importance of OPEC in projections



Figure 2. OPEC Spare Capacity Is Extremely Tight



Source: Energy Information Administration estimates.



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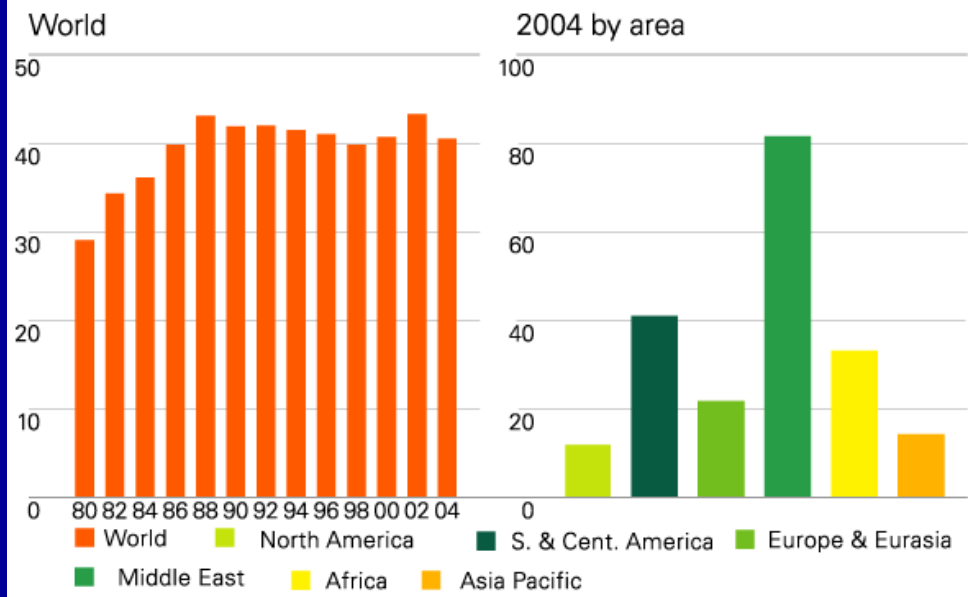
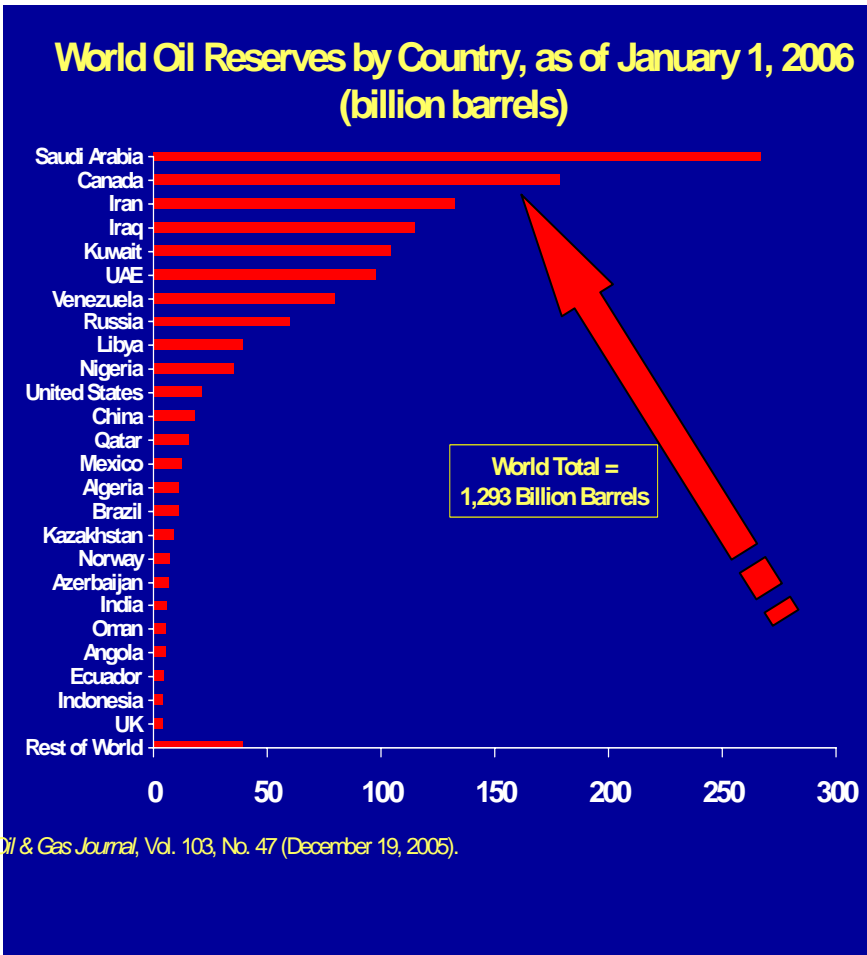
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The issue of reserves...the wrong issue to focus on!



Worldwide Reserves



The world's oil reserves-to-production ratio fell to 40.5 years in 2004, down from 43.3 in 2002. Reserves have continued to increase and now stand 17% above the 1994 level; production is 20% higher.

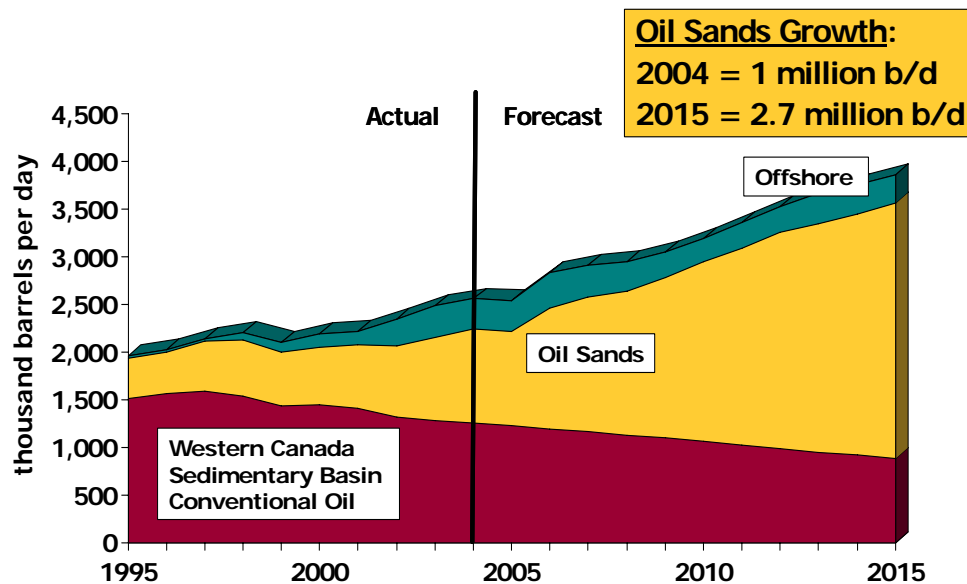
Oil & Gas Journal, Vol. 103, No. 47 (December 19, 2005).



**BP Statistical Review
of World Energy 2005**



Canadian Oil Production Conventional, Oil Sands and Offshore



- **Payments to governments in 2005 - \$27 billion**
- **Oil and gas now accounts for**
 - 25% of private sector investment in Canada
 - 30% of value on Toronto Stock Exchange
- **Will invest more than \$40 billion in Canada in 2006**
 - Largest single private sector investor in Canada
- **Oil and gas accounts for 81% of Canada's trade surplus**
 - Oil and gas accounts for 14.7% of total exports
- **Total employment impact 500,000 in Canada**



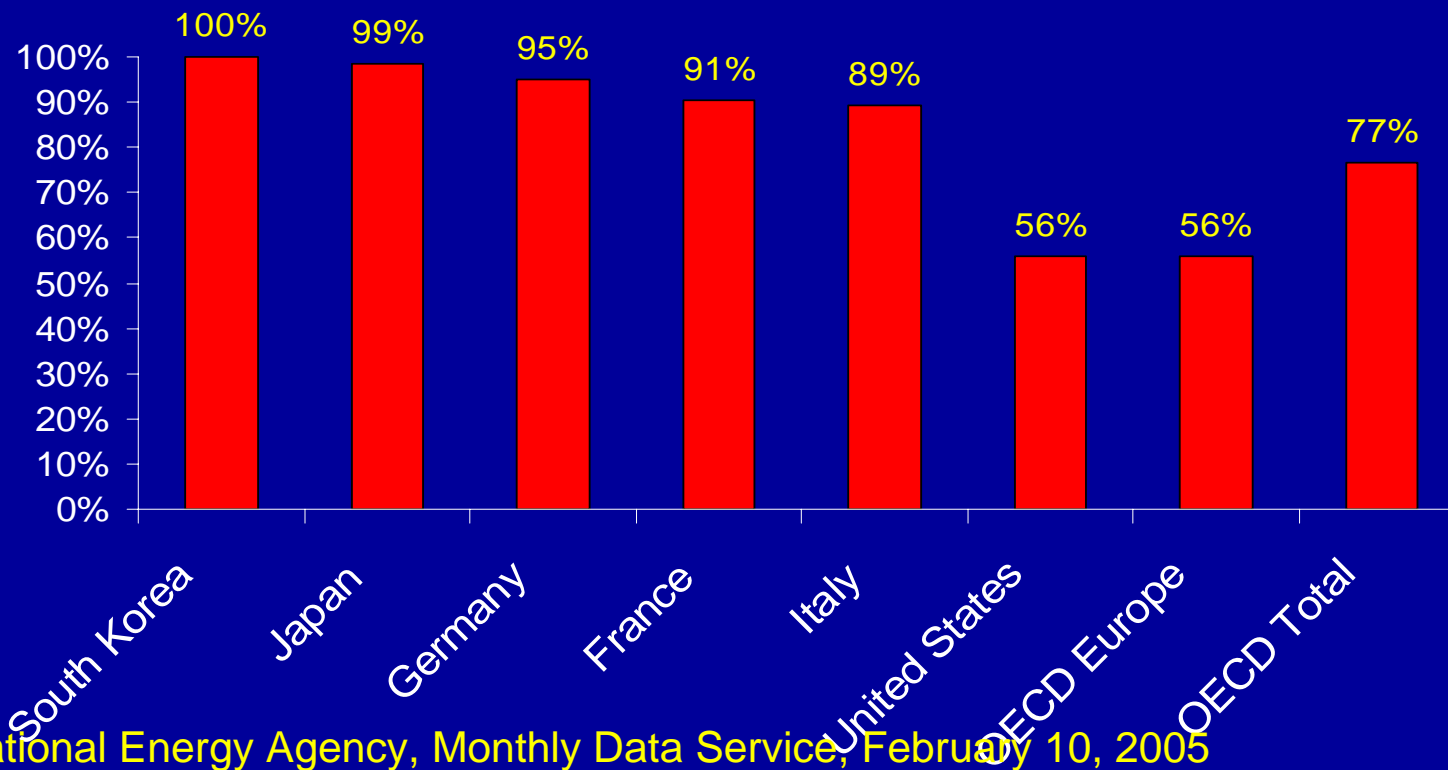
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Enviably Canadian Situation

Dependence on imports in other OECD countries



International Energy Agency, Monthly Data Service, February 10, 2005



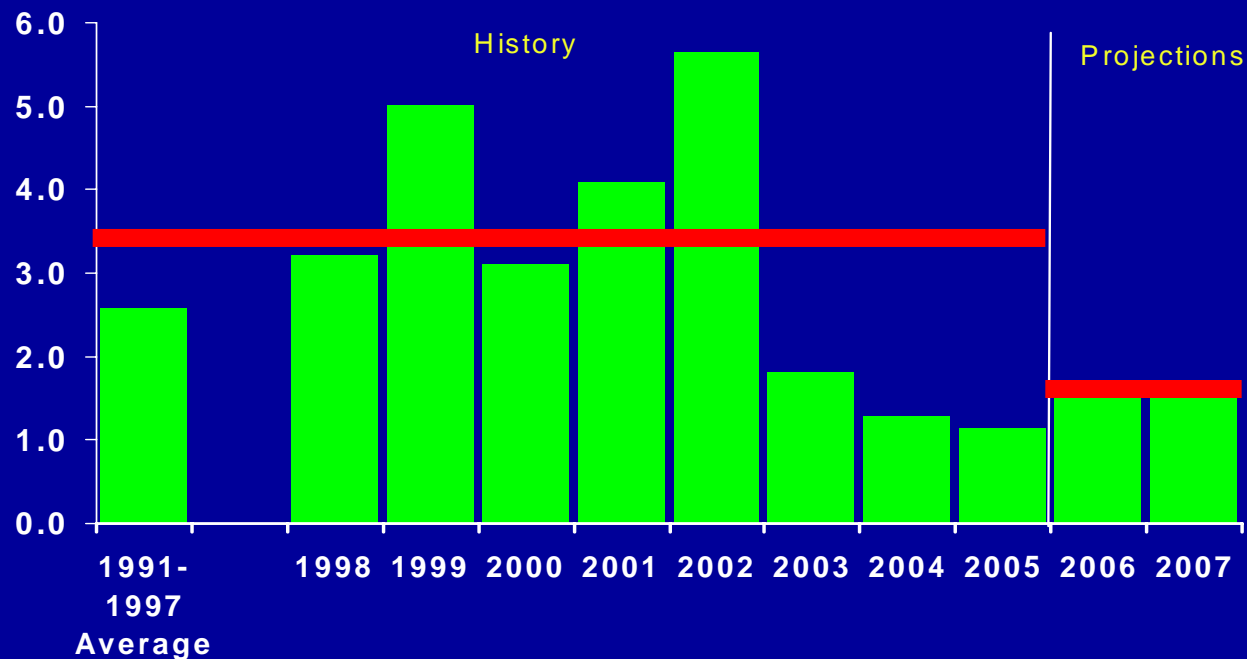
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The key issue: limits of worldwide infrastructures

World Oil Spare Production Capacity (million barrels per day)



- Lowest level in 30 years !
- Key variable fueling speculation



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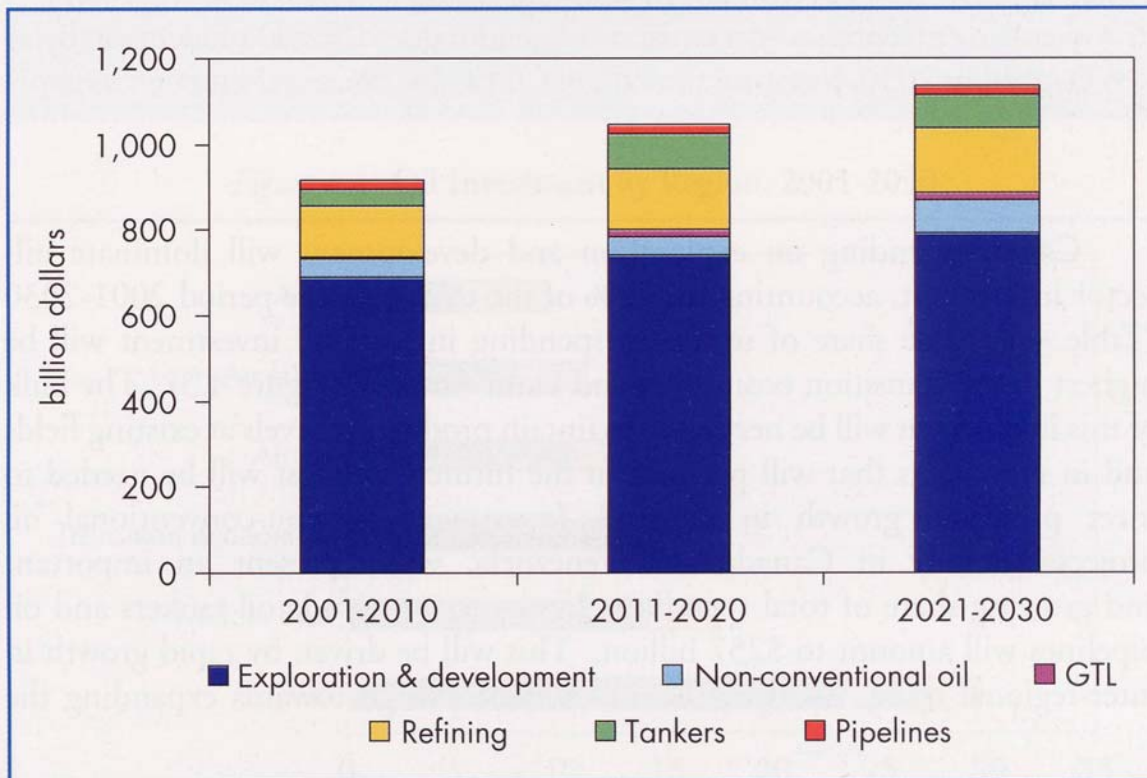
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The key issue: limits of worldwide infrastructures



Figure 4.1: World Cumulative Oil Investment by Decade



Note: Non-conventional oil excluding GTL

Required investments

- \$3 Trillion until 2030
- \$103 Billion per year
- 72 % exploration/dev
- non-conv. = Canada/Venez.
- Refining = \$412 Billion

A major challenge !!!



Source of data :



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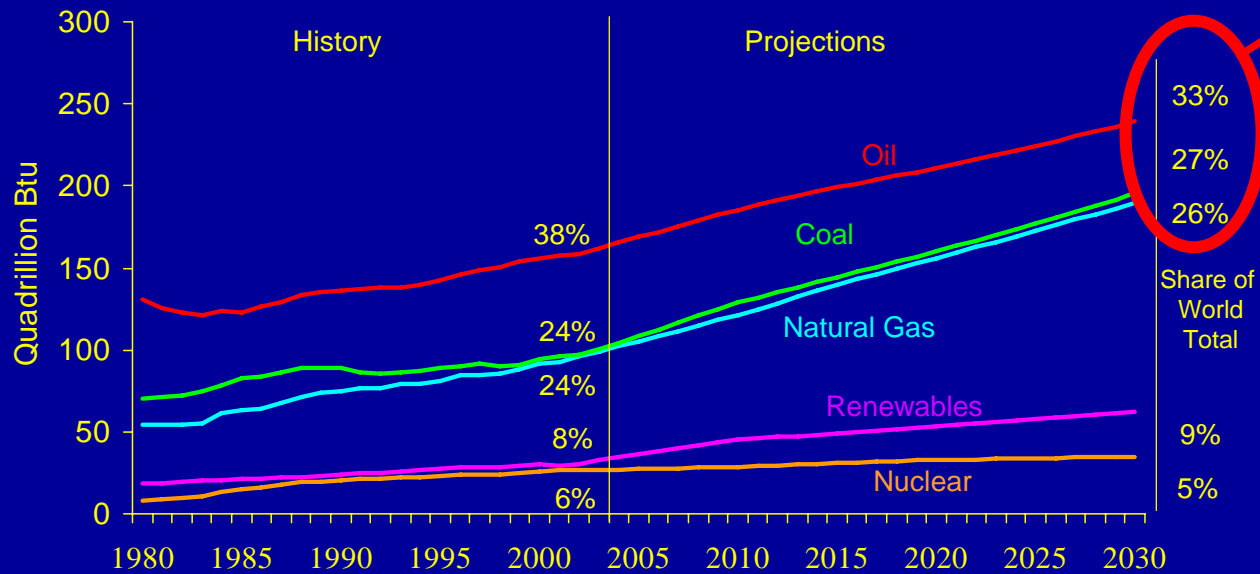
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Harsh reality for some...



World Marketed Energy Use by Fuel Type, 1980-2030



In 2030, fossil fuels are 86 % of total energy balance (more than 90% in developed countries).

Source: EIA, IEO2006



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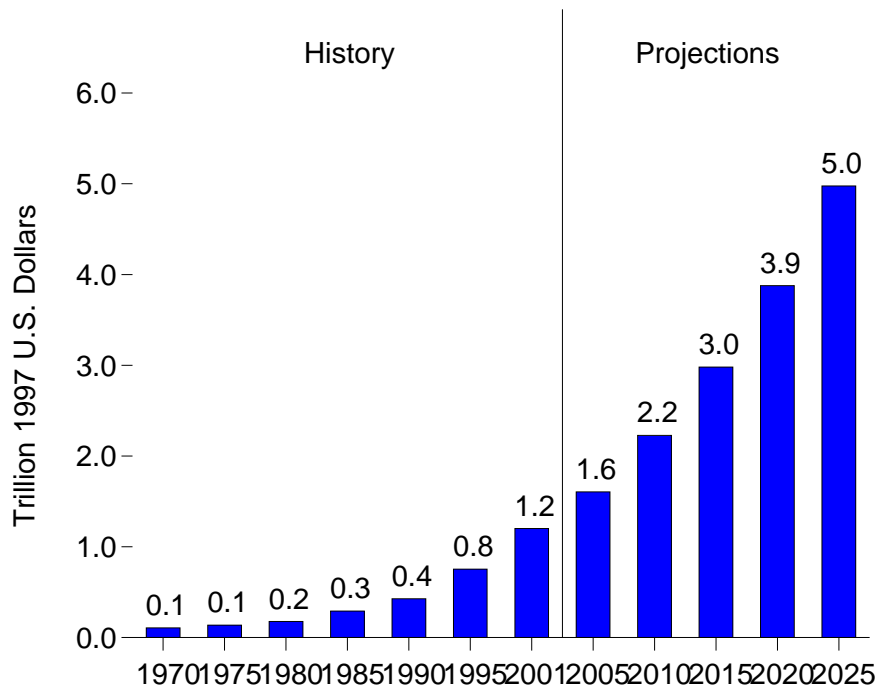
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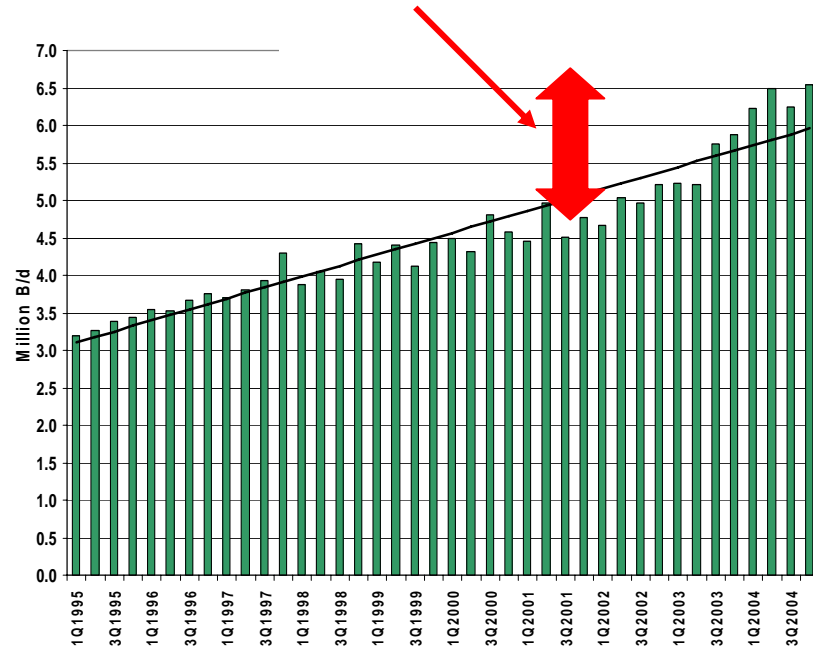
China : a major challenge



China GDP - 1970-2025



2001-2004 growth in China = all Canadian tar sands development of next 15 years !



Hydrocarbon demand since 1995



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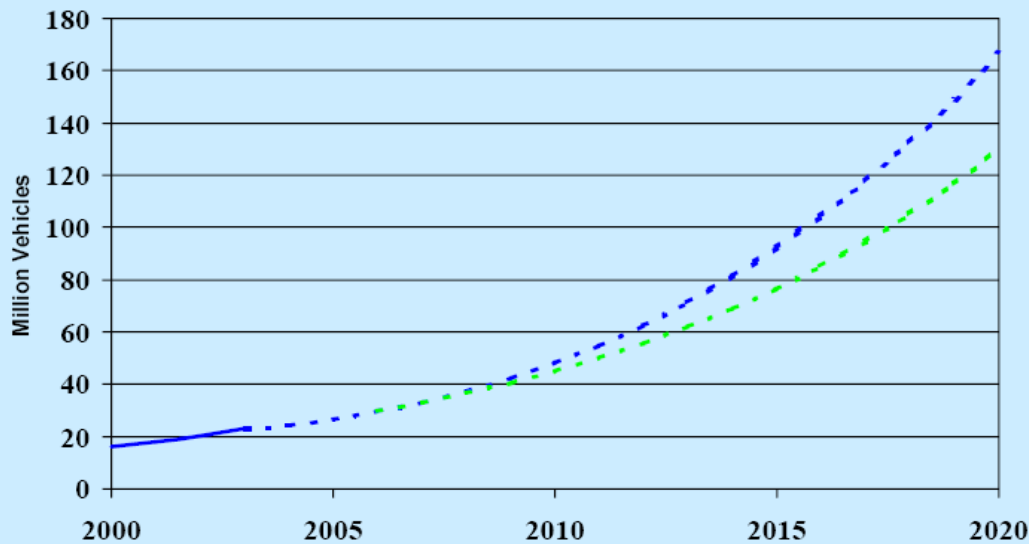
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China : a major challenge



Projected Chinese Vehicle Stock, 2000-2020



Note: Following pattern in South Korea and Taiwan (blue); Slower growth scenario forecast by Chinese government (green); Various Western and Chinese sources.

Rate of industrialization

- US - 1900/1970 from 1 to 27 bbl/pers-yr
- Japan - 1950/1970 from 1 to 17 bbl/pers-yr
- S-Korea- 1965/2000 from 1 to 17 bbl/pers-yr
- China currently at 1,3 bbl/pers-yr
- India currently at 0,7 bbl/pers-yr

U.S. has 2 people per car...

China & India have 280 people per car !



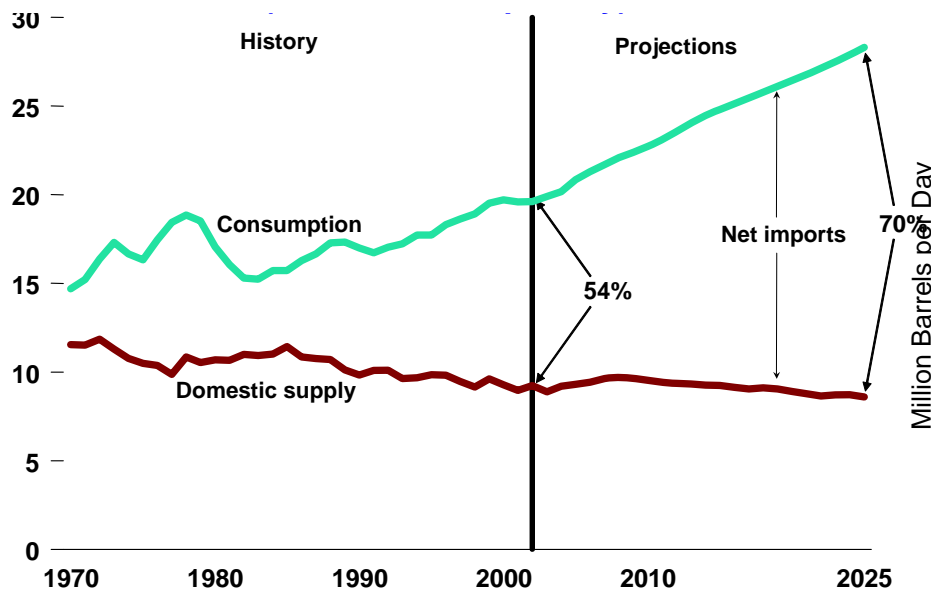
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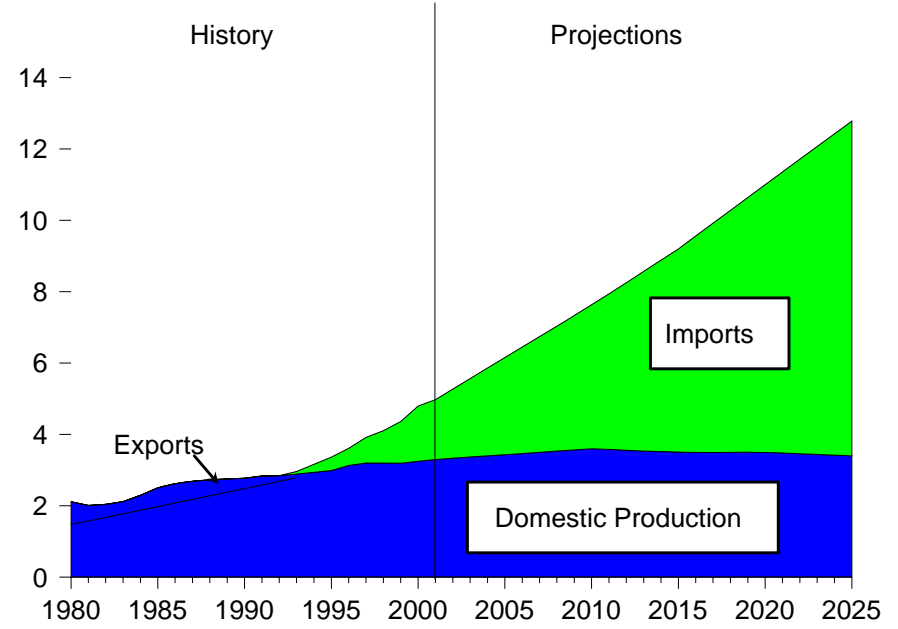
China : a major challenge



USA



China



Two economic superpowers that will rely on imported oil for 2/3 of their consumption !



The continental market



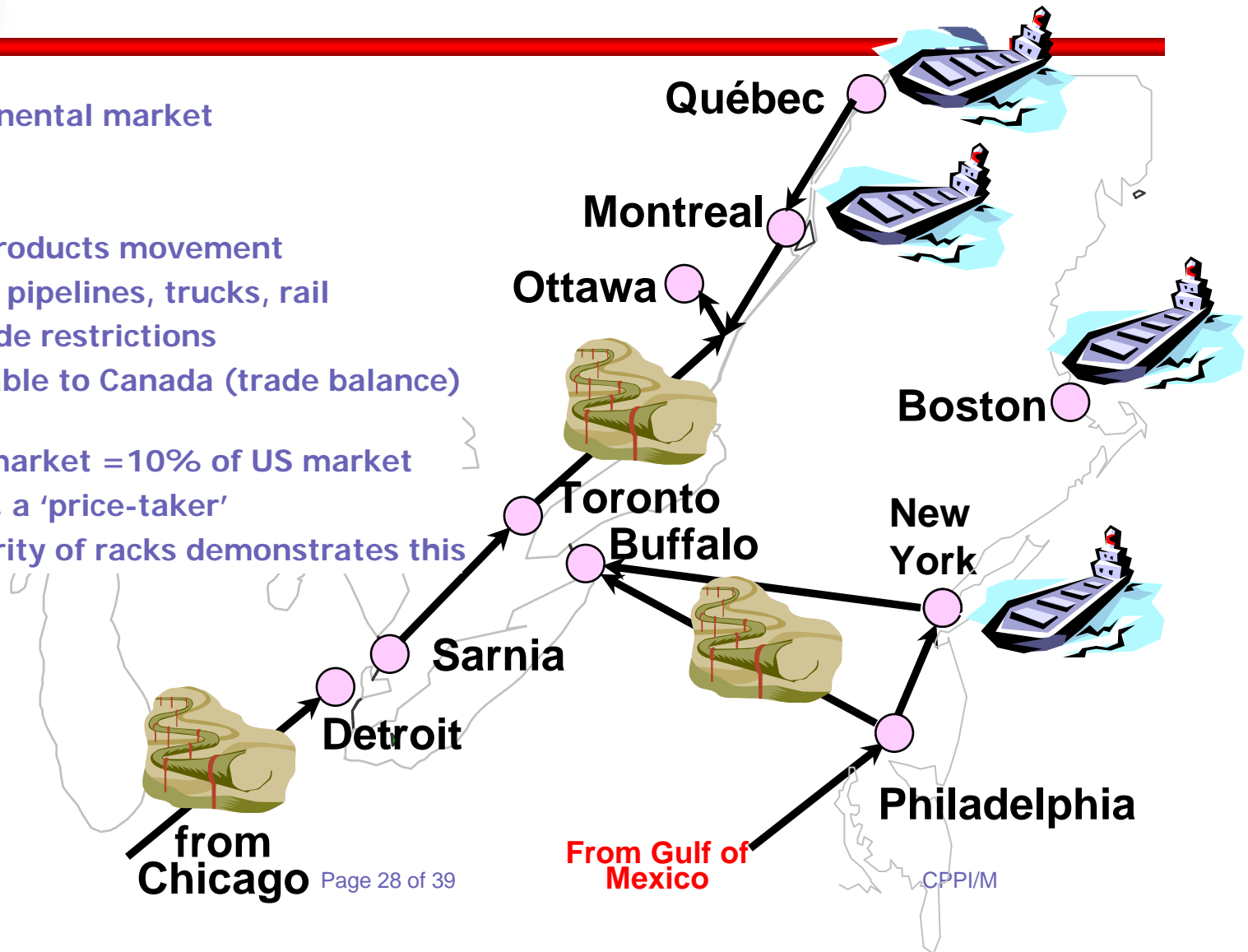
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Wholesale prices reflect continental market...

- Open continental market
- NAFTA
 - Free products movement
 - Cargo, pipelines, trucks, rail
 - No trade restrictions
 - Favorable to Canada (trade balance)
- Canadian market = 10% of US market
 - Hence, a 'price-taker'
 - Similarity of racks demonstrates this



From Gulf of Mexico

CPPI/M



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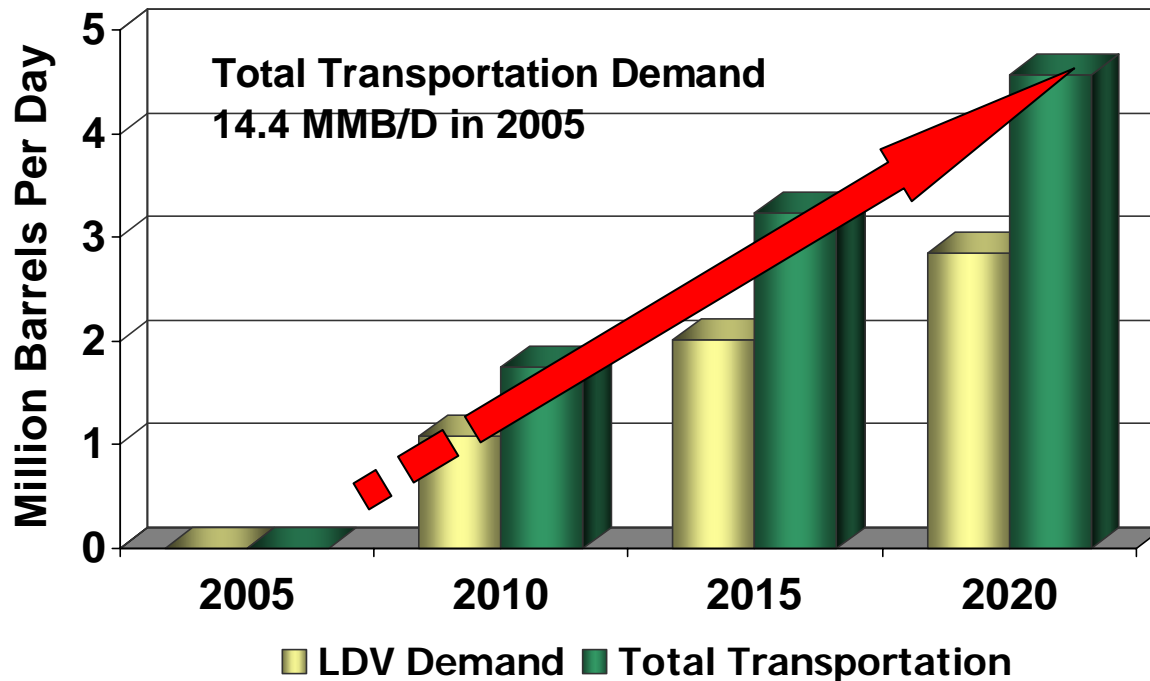
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Key issues impacting our continental market



American transportation sector growth (despite higher cost of energy...)

Increases in U.S. Petroleum Use for Transportation





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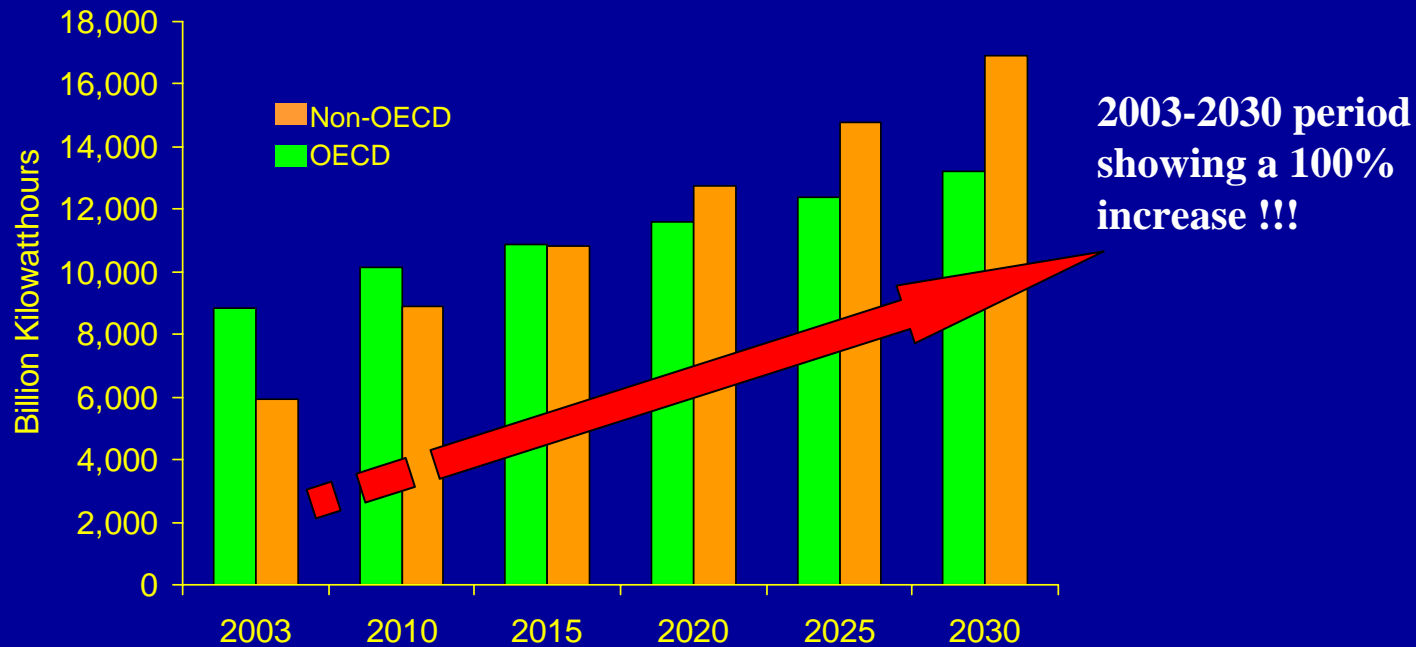
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Key issues impacting our continental market



Electricity generation sector also showing impressive growth

Net Electricity Consumption, 2003-2030



Source: EIA, IEO2006

Source of data :





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Other realities from market volatility



- “Electricity markets are particularly volatile because, unlike most other commodities, electricity cannot be stored and its demand is highly price inelastic (demand is relatively unresponsive to price).”
- “This makes electricity prices particularly sensitive to sudden changes in market conditions.”

-- Electric Perspectives, July/August 2006



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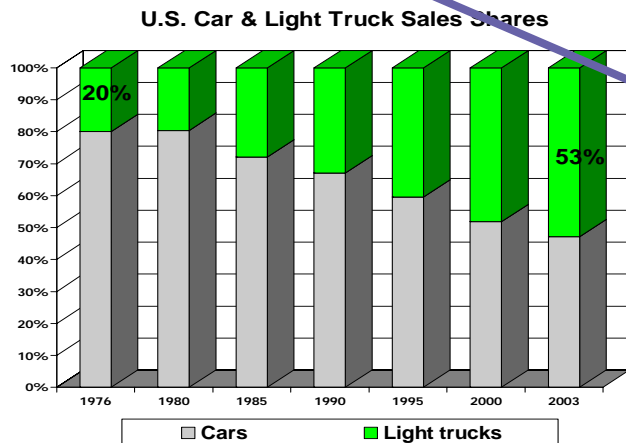
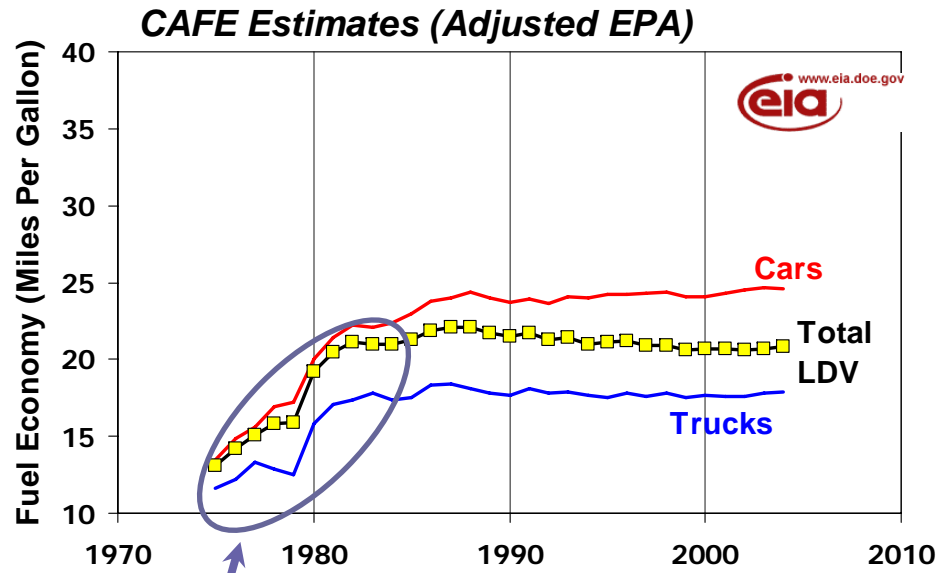
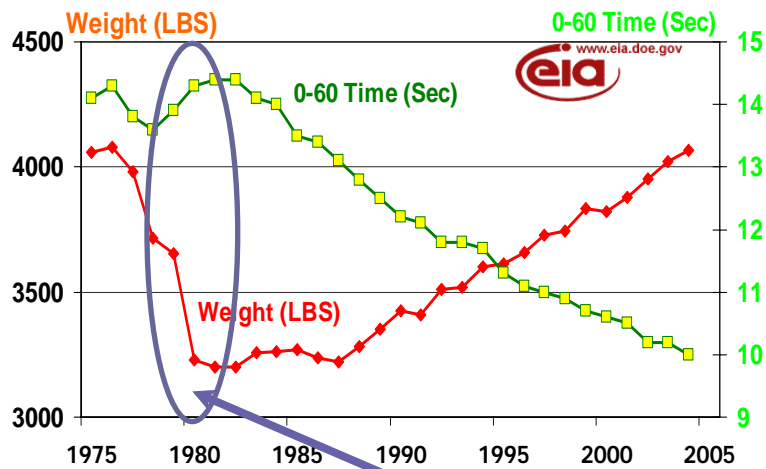
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The transportation sector challenge



Energy efficiency improvement in fleet didn't resist America's love affair with SUVs...

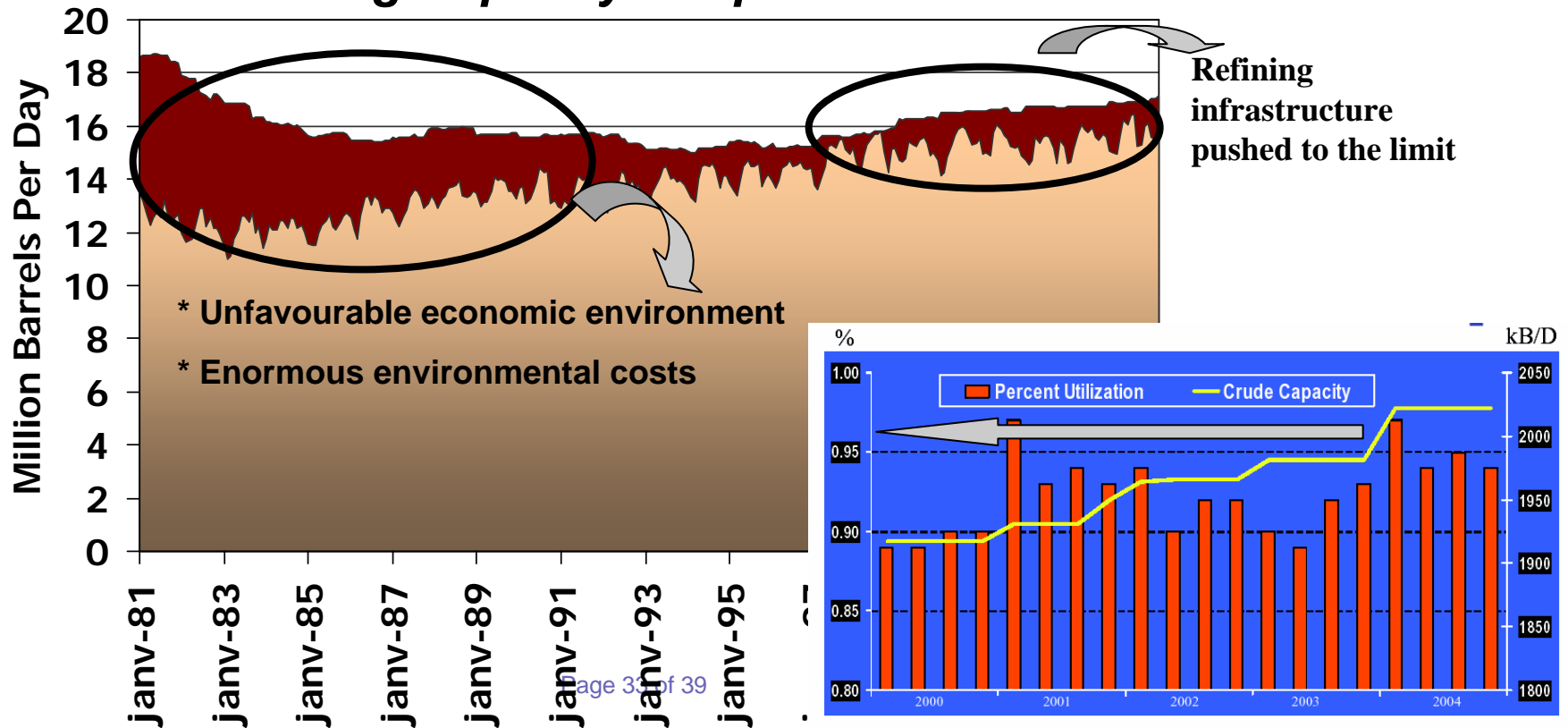


Initial success followed by arrival of bigger/less efficient vehicles



Refining capacity evolution

U.S. Refining Capacity & Inputs





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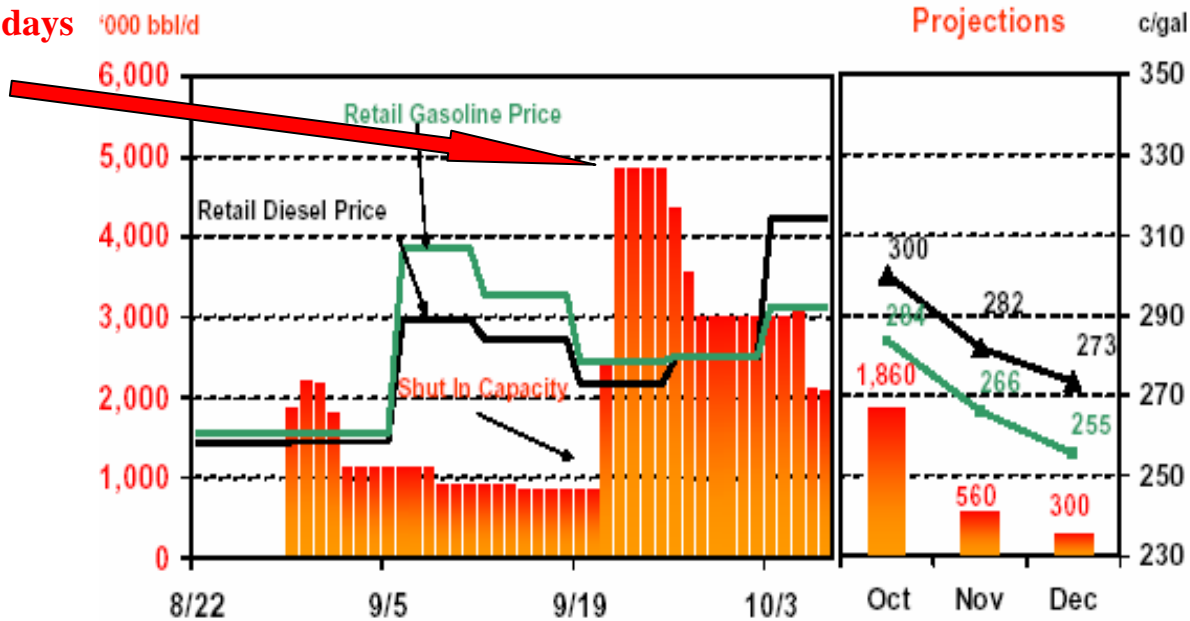
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A sometimes fragile refining sector



Hurricanes Katrina and Rita Initially Shut Down Most Gulf Refinery Capacity

Loss of capacity reached 30% in a matter of days





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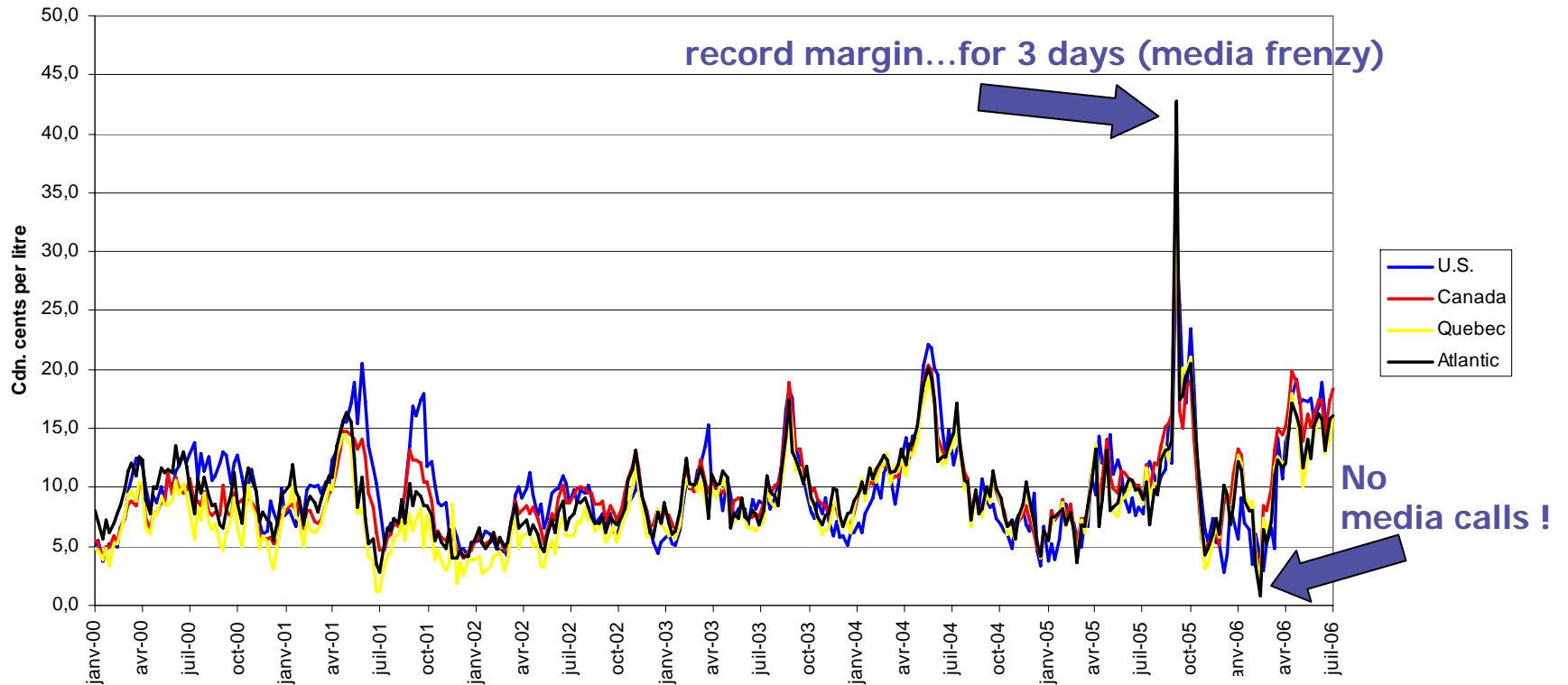
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The debate around refining margins



Refining margins on regular gasoline

(note: a refinery produces more than 10 other products)



Continental market conditions, NOT refiners, decide refining margins !

Local markets



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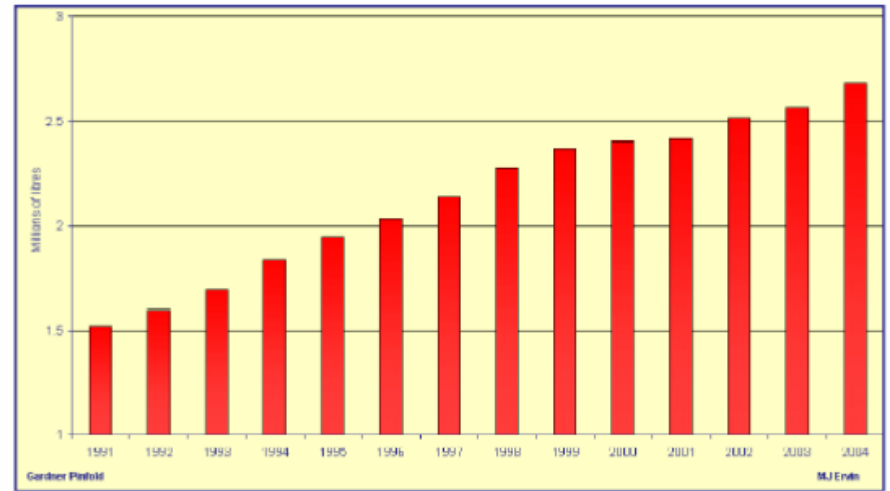
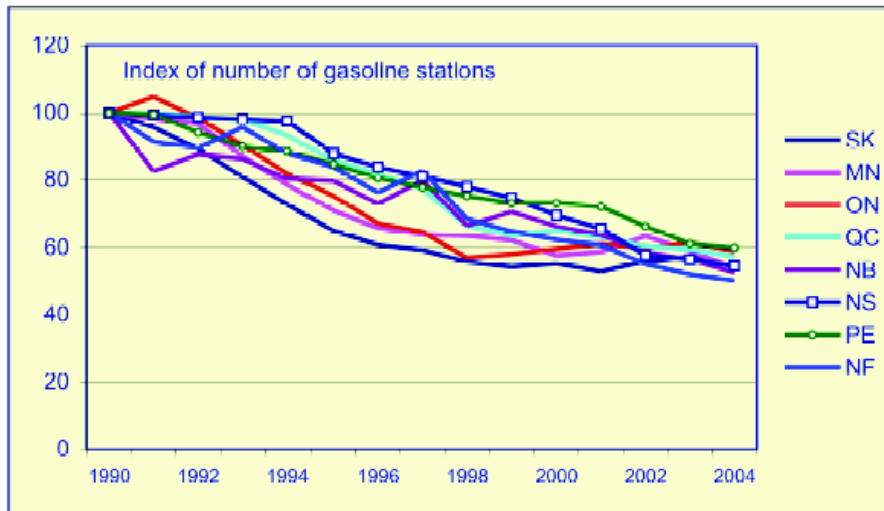
Retail gasoline market



The quest for higher efficiency...

Less retail sites...

...hence, more throughput per site



Source: PEI IRAC Annual Reports; NS Department of Environment and Labour; MJ Ervin & Associates; Octane Magazine.

Over longer period, regulation tends to impede this process



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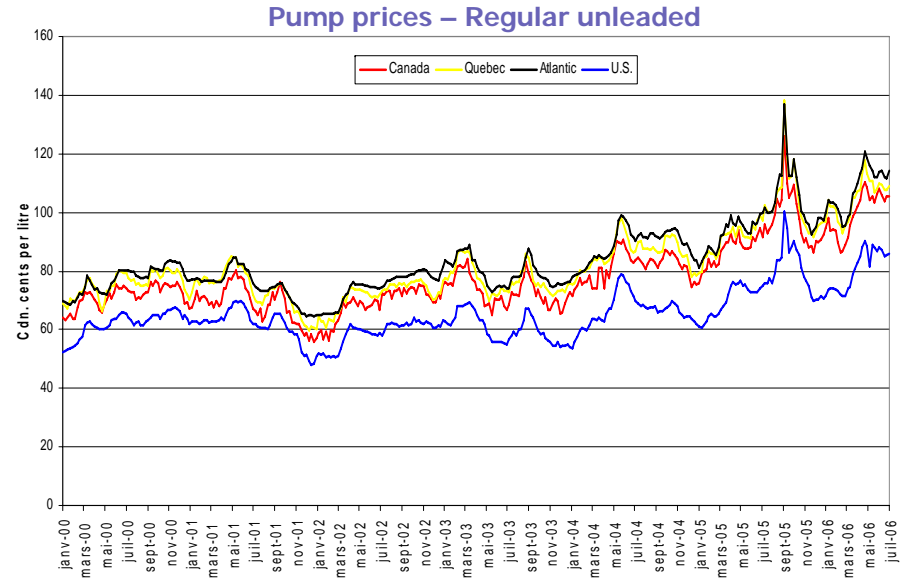
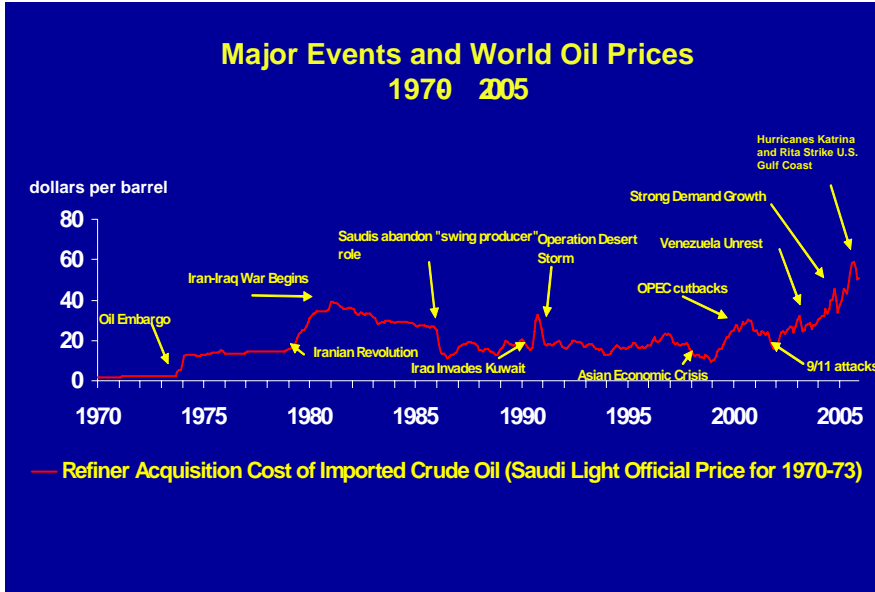
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Retail gasoline market



Local regulation (no matter how complex) is chasing an even more complex world...



Inefficiencies of these regulations in trying to mimic real markets yield higher prices to consumers on average...



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Conclusions



■ Current global market dynamics

- Characterized by a strong demand-side while the supply-side is struggling to balance a fragile equilibrium
- Prone to volatility and speculation

■ Perspectives

- Geopolitics surrounding producing countries is/will be the leading factor to follow (Iran, Iraq, Nigeria, Venezuela)
- Second key factor to follow will be economic growth of developing countries (demand-side)
- Will industry succeed at delivering infrastructure projects (supply-side) ?

■ Elements of solution

- Demand-side management will be key
- Better incentives to manage the consumers energy portfolio
- In summary, energy efficiency as a top priority in all sectors of our economies.

