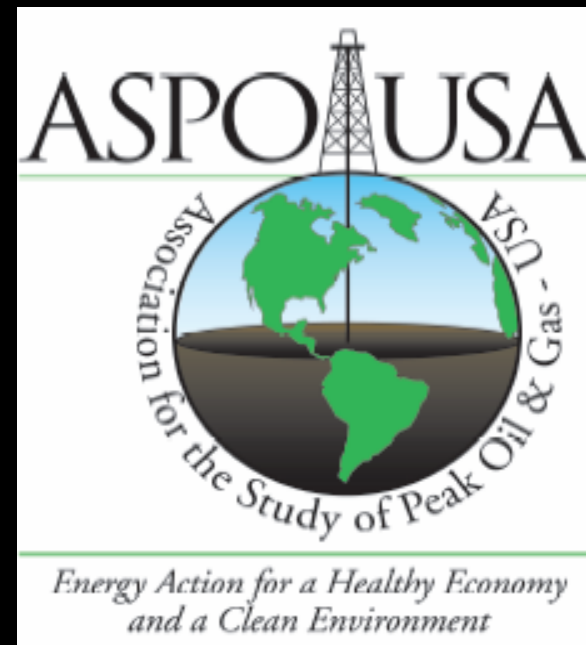


Peak Oil

The Crisis of our generation



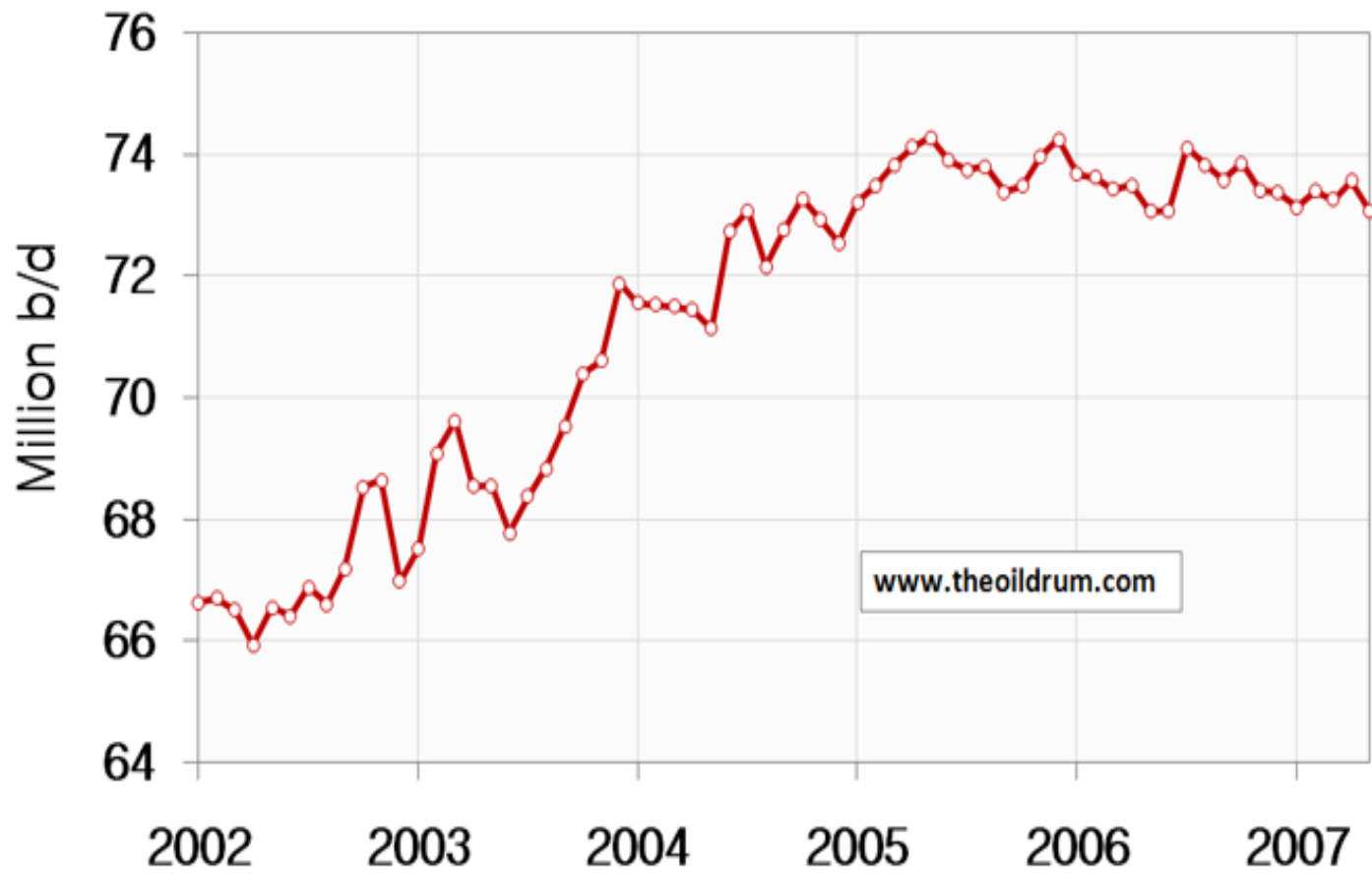
The Topics

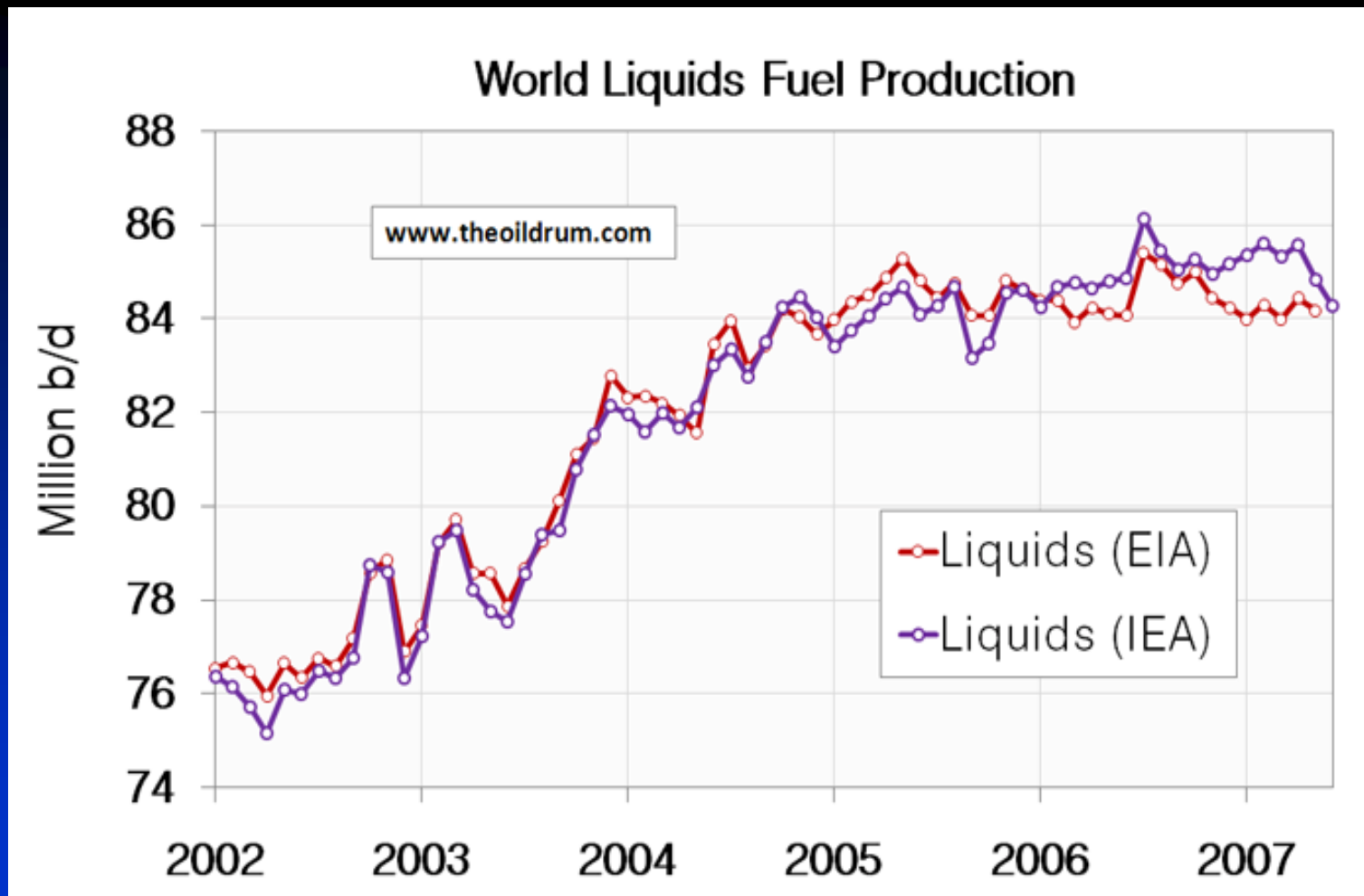
- The Geology of Peak Oil.
- Outlook for world oil production.
- Problems this winter
- US Gasoline problem

What is Peak Oil?

- The point in time when world oil production reaches its maximum.
 - ◆ From that year on there will be less oil produced every year.
 - ◆ When cheap, freely available, oil comes to an end.
 - ◆ The half-way point of all world oil production.

World Crude Oil Production



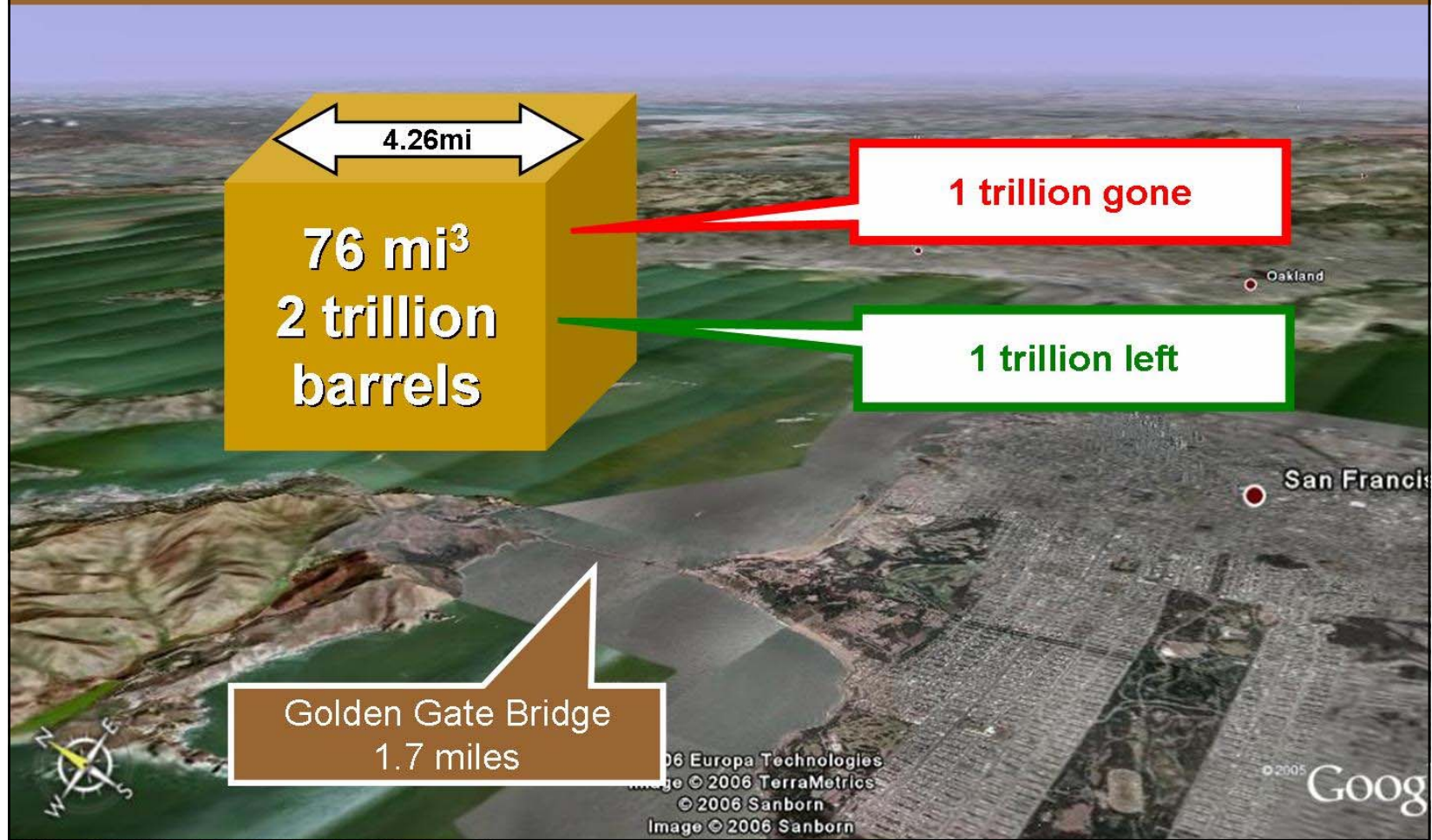


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The Basics

- Most agree, we started with 2+ trillion barrels of conventional oil
 - ◆ We have extracted the easy trillion
- We currently use 85 million b/d
 - ◆ Or 31 billion barrels per year
 - ◆ Or 1000 barrels per second

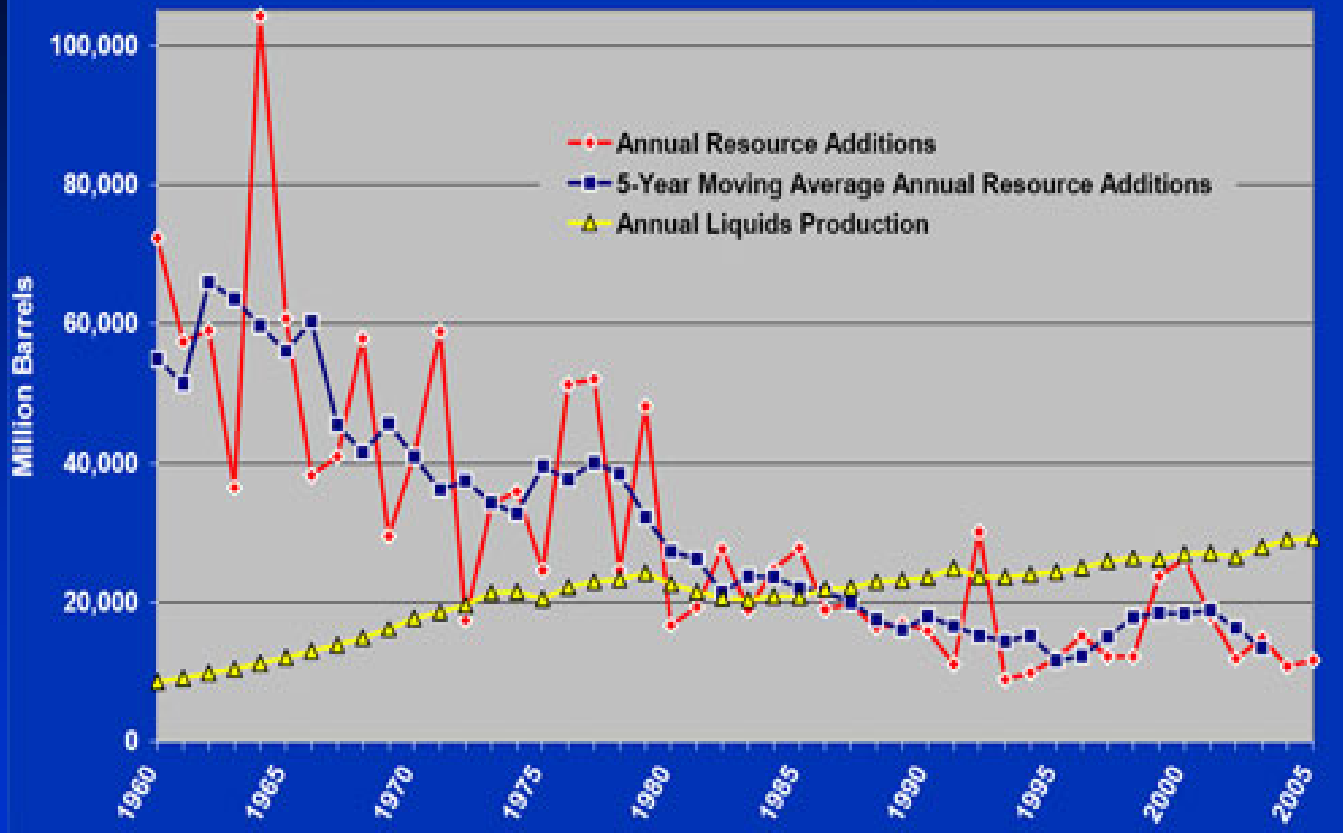
World "Recoverable" Oil Reserves

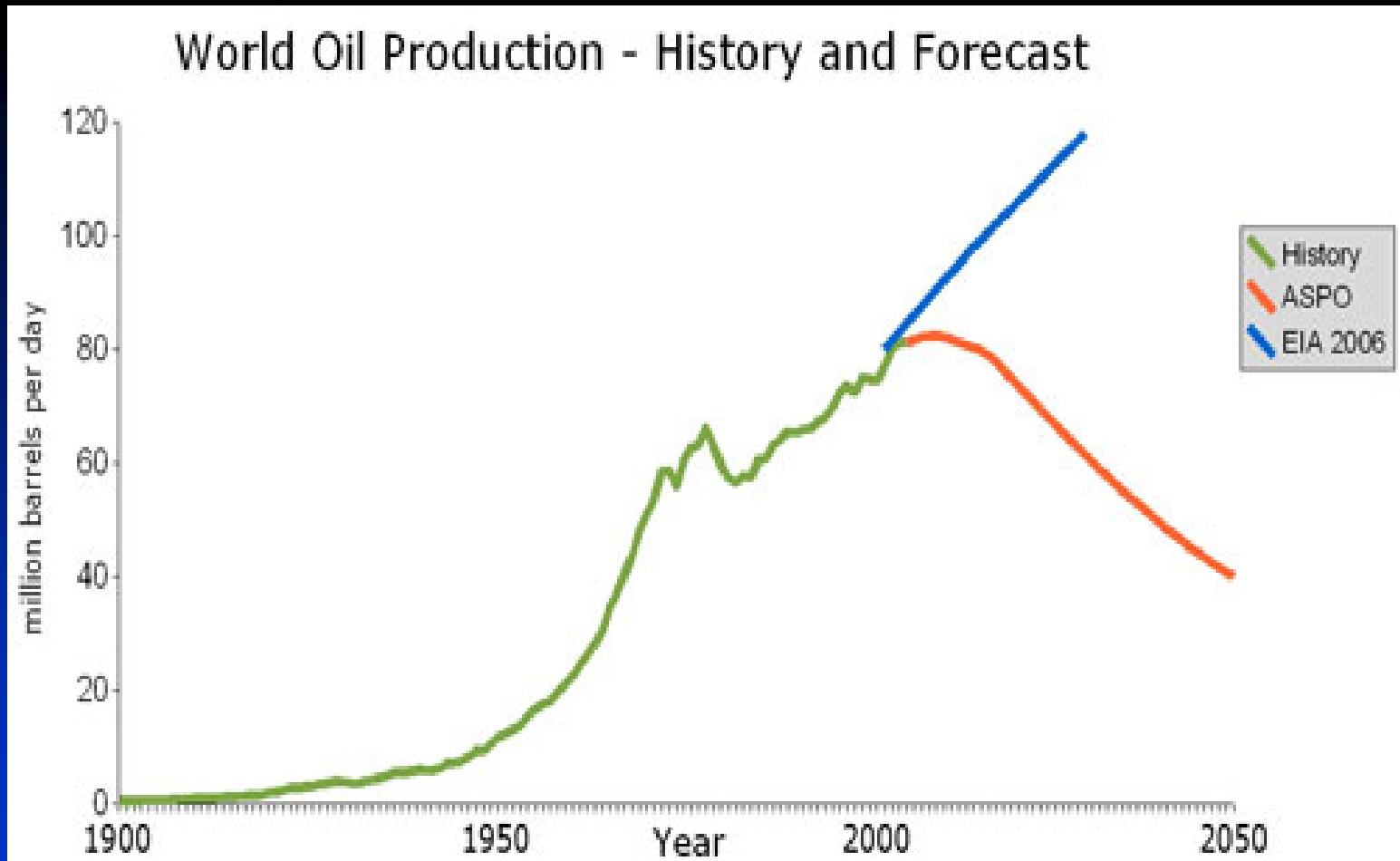


World Liquids Resources The Key Concern



Annual Liquids Discovered versus Annual Liquids Production



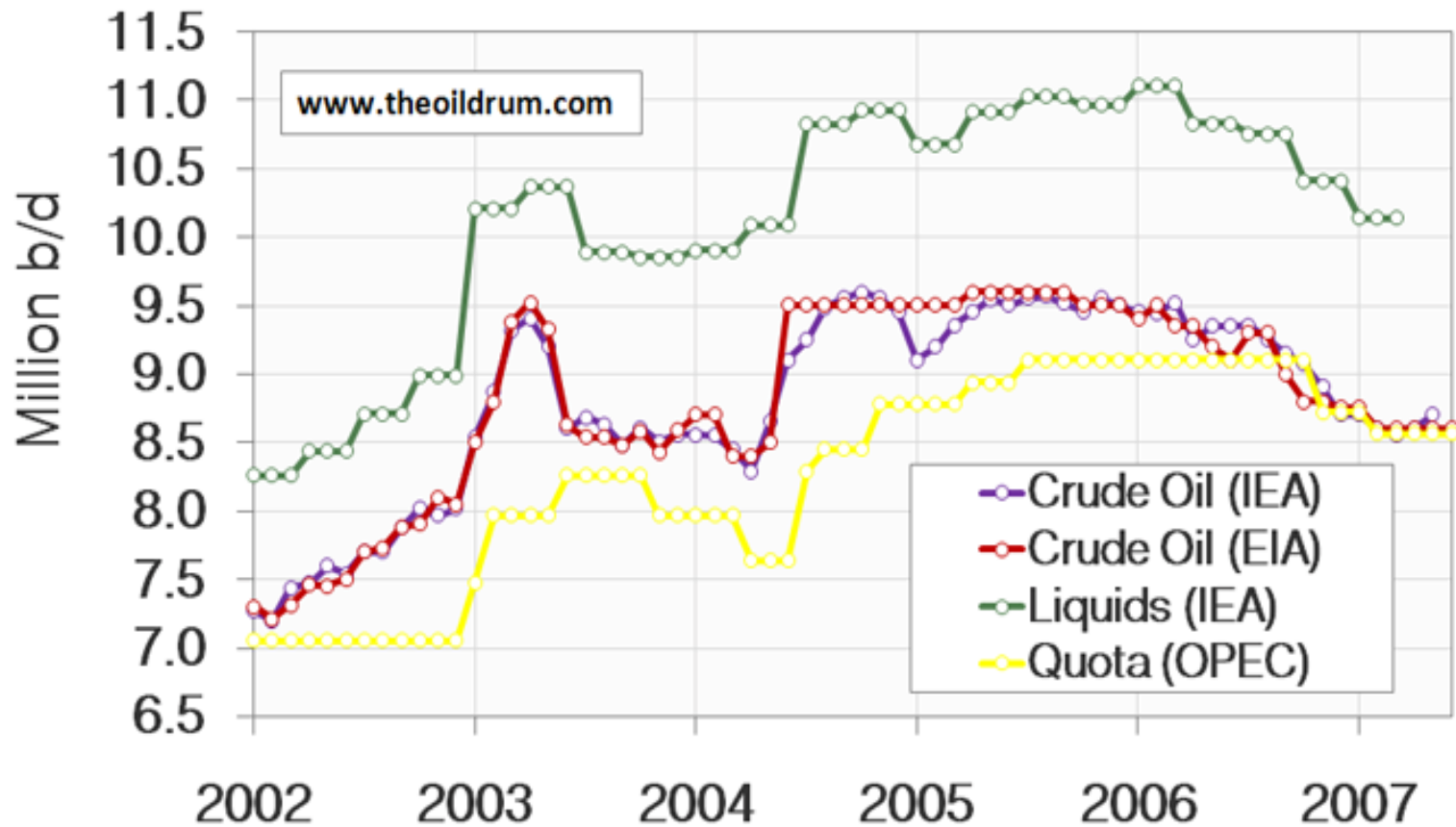


Analysts look at world production

- Look at rate of depletion of producing countries
- Watch the progress of new projects stream.
- Estimate the demand for oil.
- Calculate the balance.

- They are saying shortages in 3 years. (2010)

Saudi Arabia Crude Oil & Liquid Fuels Production



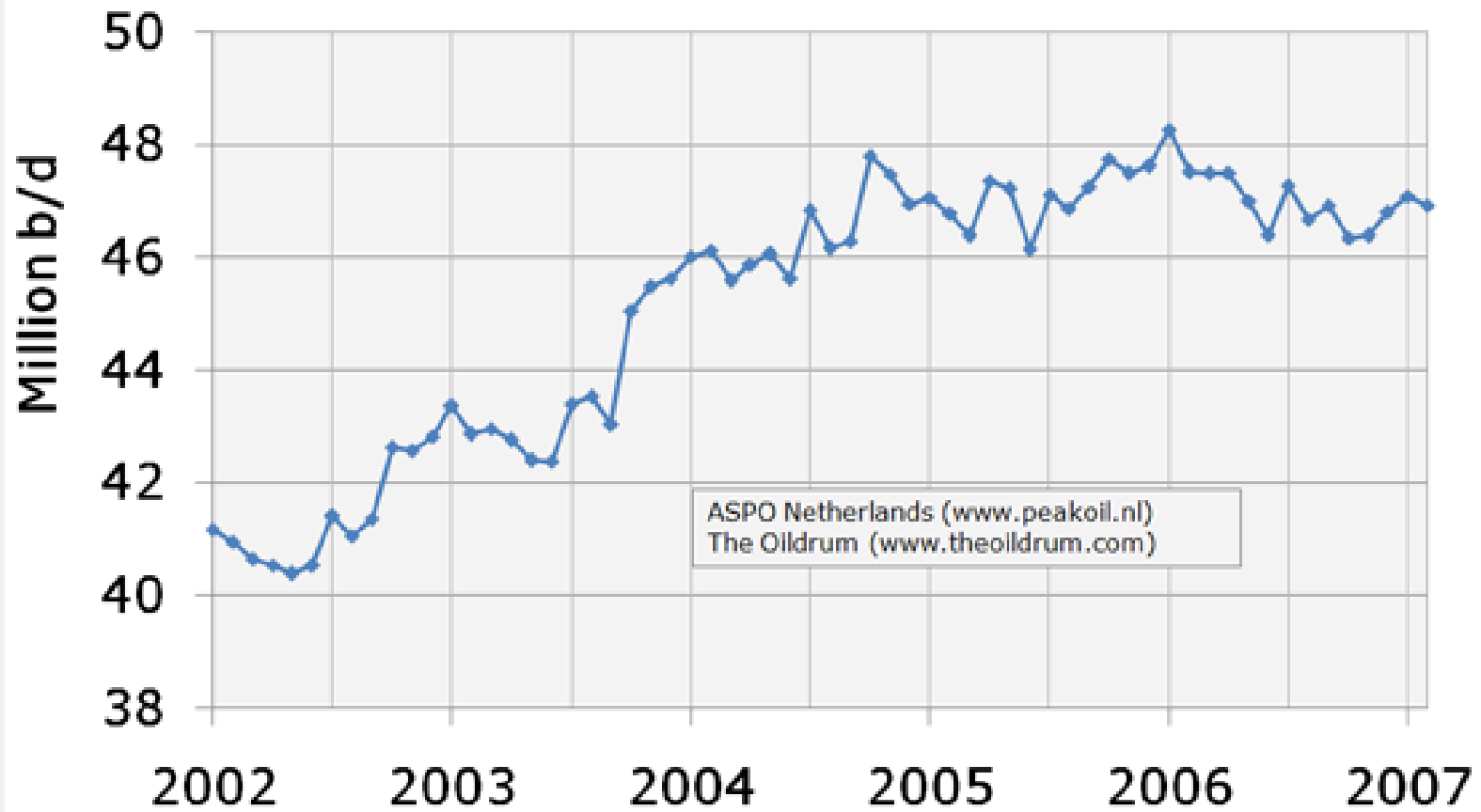
Above Ground factors

- Investment
- Wars, insurgencies
- Nationalistic governments
- Weather
- Economic recession or worse

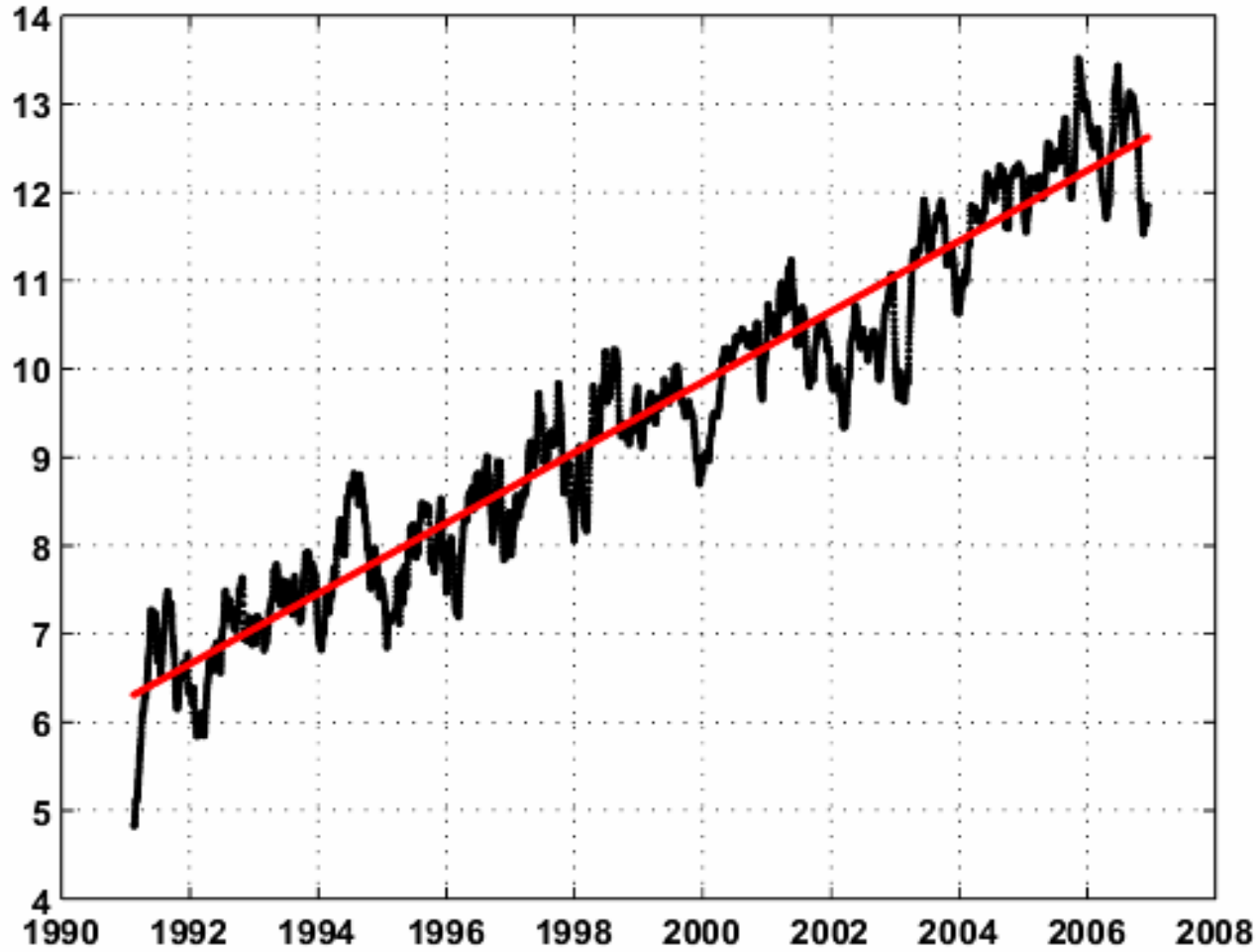
Exports will drop faster

- Exporters domestic demand rising
- Exporters to worry about running out

World Liquids Exports



U.S. Total Crude Oil and Petroleum Products Net Imports (Million Barrels per Day)



May 2007 US Crude and Products Imports (14.164 million b/d)

■ Canada	2.462 million b/d
■ Mexico	1.617
■ Saudi Arabia	1.614
■ Venezuela	1.520
■ Nigeria	.964
■ Algeria	.744
■ Angola	.692
■ Russia	.499
■ UK	.390
■ Iraq	.341
■ Kuwait	.168
■ Ecuador	.216
■ Columbia	.122

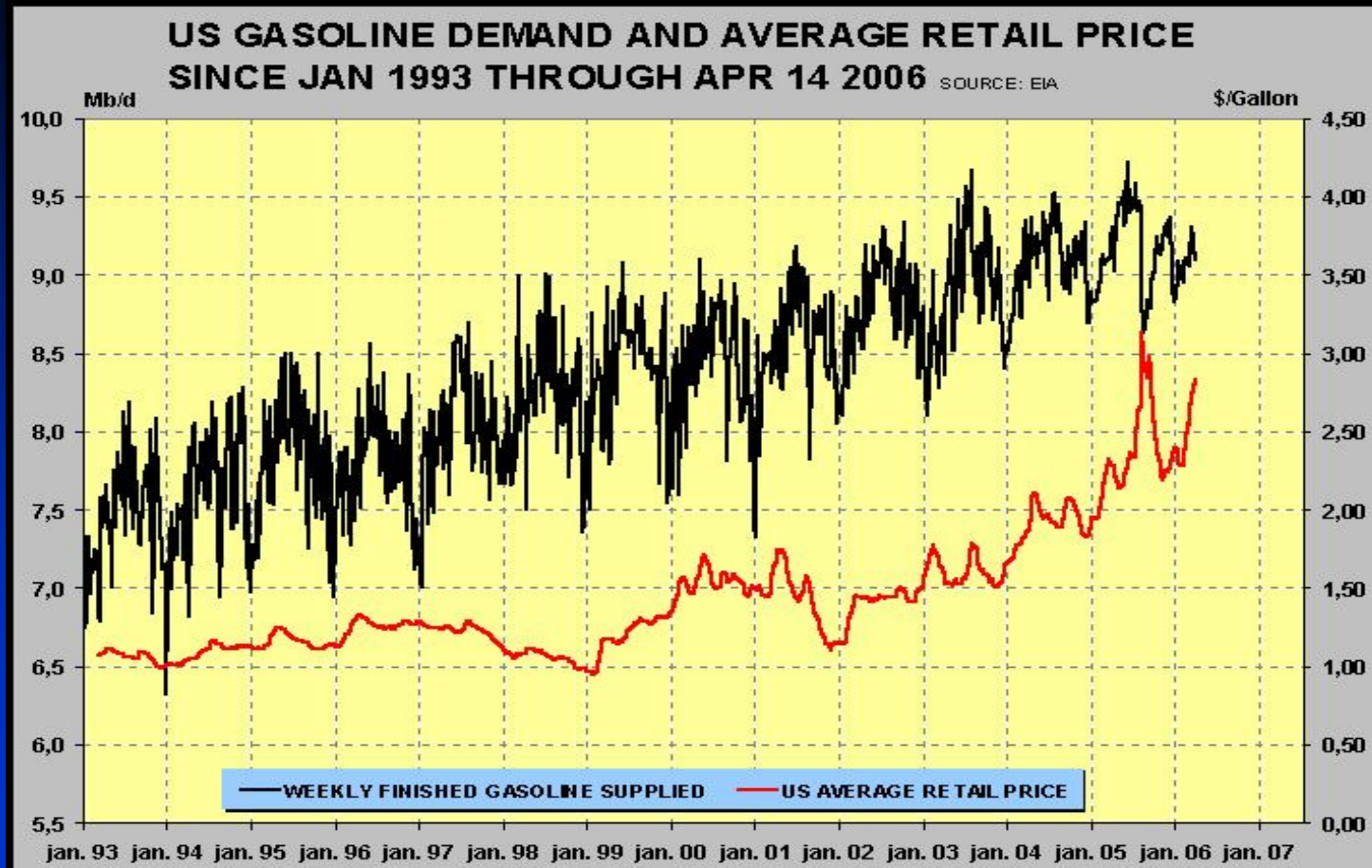
World Oil Situation September 2007

- OPEC (Saudis) cut production 1 million b/d
- China, India, oil producers consuming more and more.
- OECD demand flat up a bit to.
- OECD stocks currently about average.
- Forecast to drop rather than build in 3rd Quarter

US Oil Situation September 2007

- Our stockpiles are still above average.
- But our consumption is up over last year.
- Imports are no longer growing as usual.
- Was 4 percent a year down to .4
- For the last few weeks, stockpiles dropping
- Looks like down to average soon.

US Gasoline 1993-2006



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US Gasoline Problem

- Refineries getting old and breaking down.
- We import 1.2 million barrels per day to keep going.
- In recent week imports dropping.
- Gasoline reserves now at lowest level ever.

US Gasoline Stocks

- Last week down to 191 million barrels.
- Minimum Operating Level – was 185.
- May only be hours of gasoline reserves in US

Issues for the next 12 months

- The Hurricanes?
- State of world and US economies?
- Can Saudis really increase production?
- Disruption of supply – Iraq, Iran, terrorists, Nigeria?

The forecasts

- IEA and EIA are changing tunes.
- Pleading with Saudis to increase production ----- now!
- US Energy Secretary warning of trouble.
- Many talking of \$100 oil within 12 months.