

## ASPHALT SUPPLY IN A VOLATILE OIL WORLD

Bill Haverland  
ConocoPhillips Company

## Issues to be Discussed

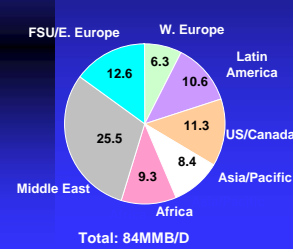
- Crude Oil Supply
- Crude Oil Pricing
- Refining Capacity
- Products Supply
- Products Pricing
- Future of the Industry

## CRUDE OIL SUPPLY

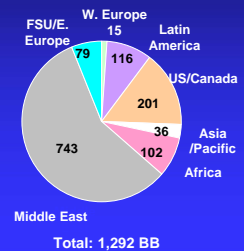
A WORLD LOOK

## Crude Oil Supply (2006)

World Crude Oil Production  
Millions of Barrels Per Day



World Proven Crude Oil Reserves  
Billions of Barrels



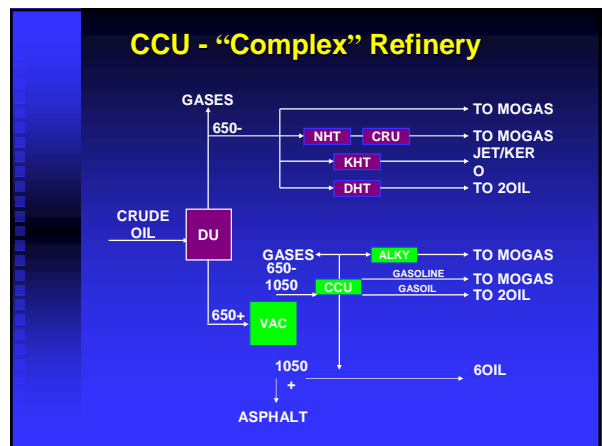
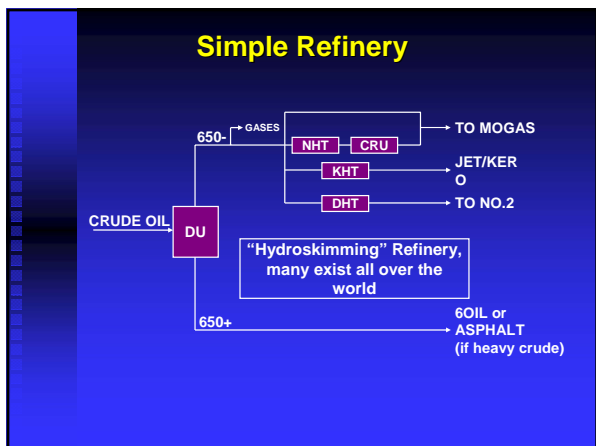
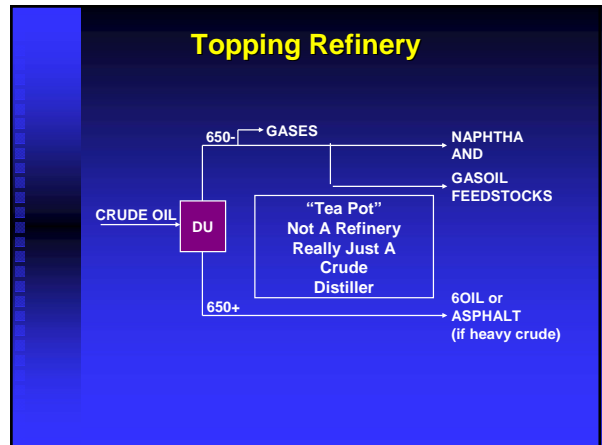
## Crude Oil Demand

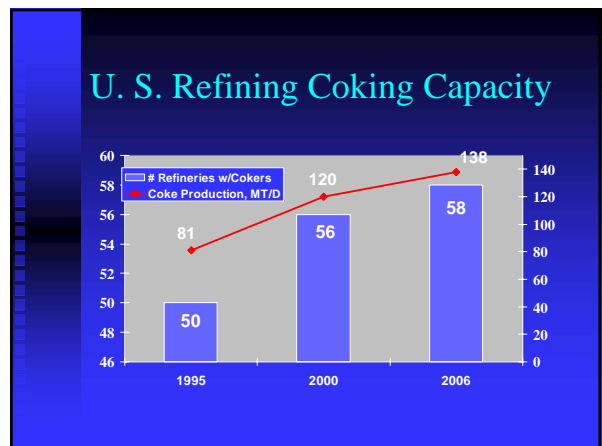
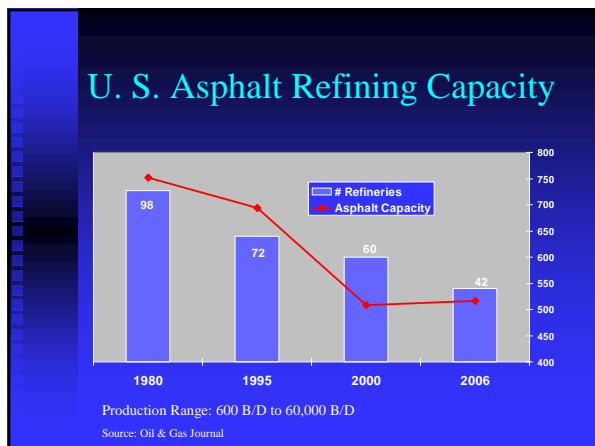
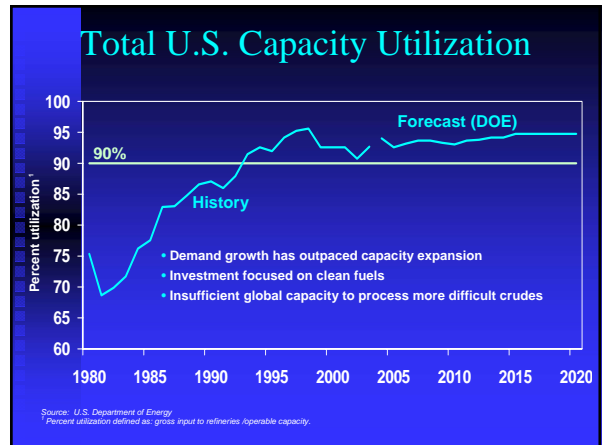
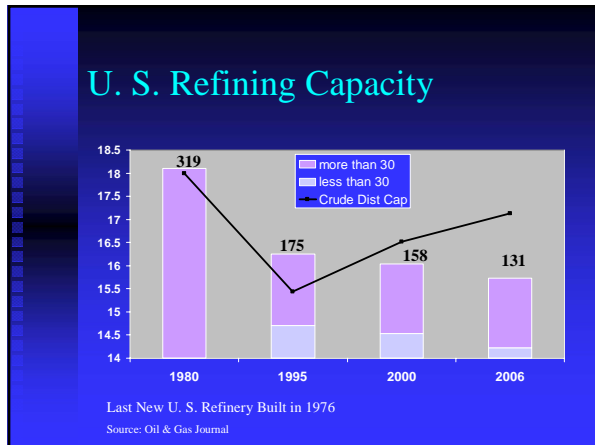
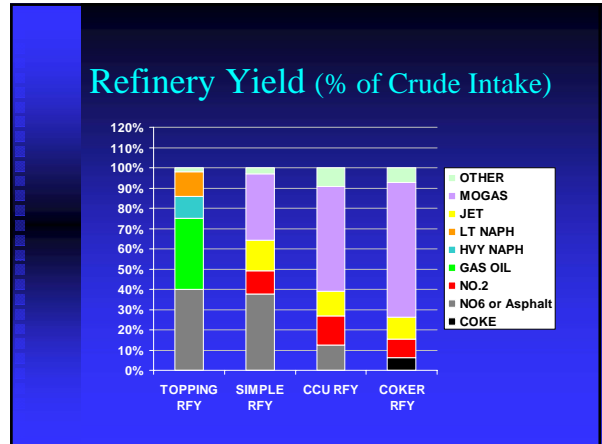
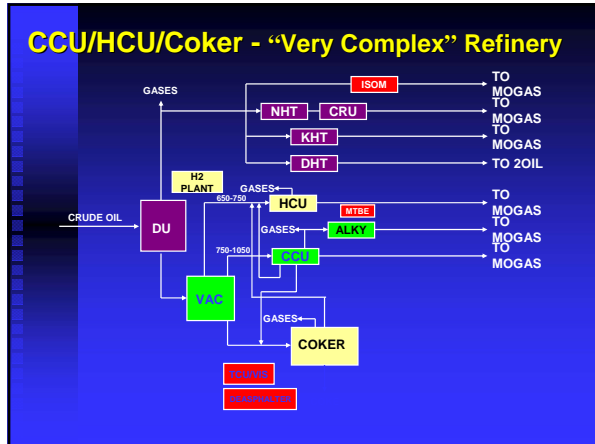
- Demand has risen by 7 MMB/D (9%) since 2002.
- Demand nearly 85 MMB/D or 98% of world daily delivery capacity.
- Vulnerable to supply disruptions caused by storms, accidents, breakdowns, political unrest.
- 65% of proven reserves within national oil companies and 16% held by Russia.
- Traditional companies have full access to 7% of reserves and 12% through partners (if allowed).

## CRUDE OIL PRICING



## REFINING CAPACITY





### U.S. Coker Construction Projects 2005 - 2011

- Engineering, Procurement & Const. Phase
  - Total Refineries: 245 MB per day
  - Asphalt Refineries: 135 MB per day
- Planning or Early Engineering Phase
  - Total Refineries: 176 MB per day
  - Asphalt Refineries: 121 MB per day

\* Source: Argus Asphalt Report

### Worldwide Coker Additions

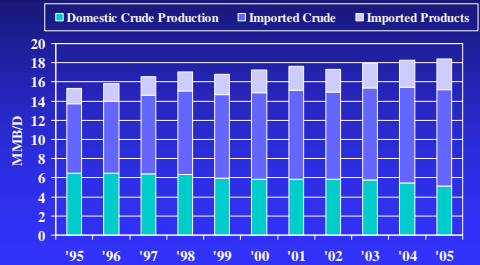
- Refinery Coker Additions – 1,570M Barrels
- Crude Upgraders – 1,214M
- Total Resid Destruction – 2,784M\*

\*Reduces world asphalt and #6 oil supply

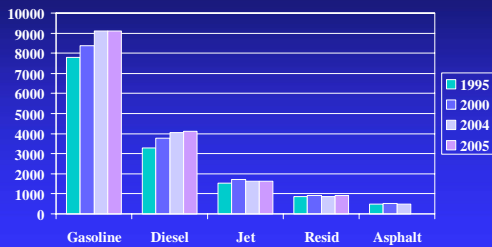
Source – Argus Asphalt Report

### PRODUCTS SUPPLY/DEMAND

### Supply Source for U. S. Demand

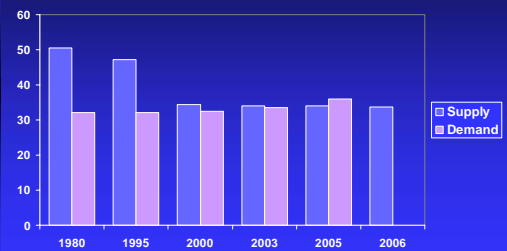


### U. S. Product Demand, MB/D



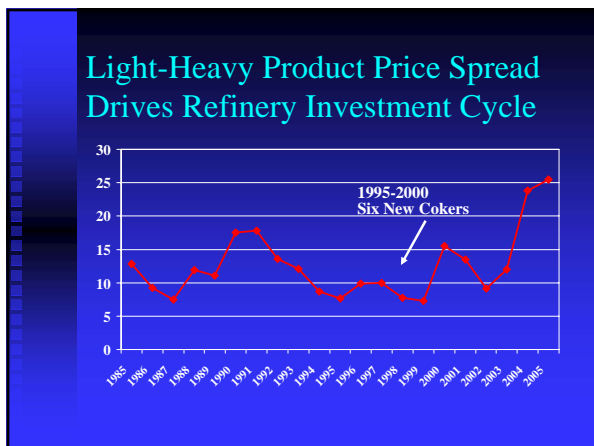
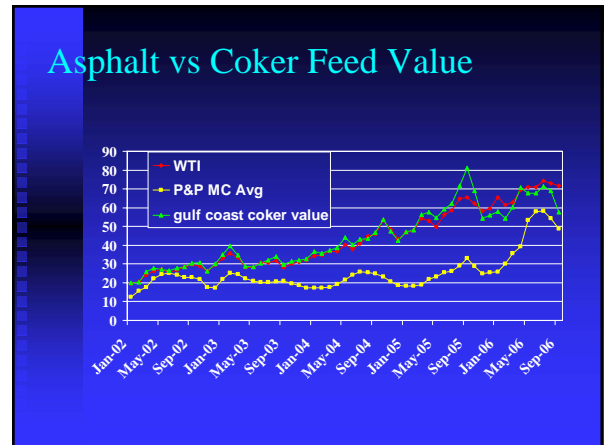
### Historical Asphalt Supply/Demand

Millions Tons - Liquid



Source: Oil & Gas Journal

## PRODUCTS PRICING



### Economic Analysis

Gasoline/Diesel Pricing	Kansas Asphalt Pricing
■ Jan., 06 Price: \$70.00/BBL	12/05 YTD: \$32.94/BBL*
■ Less Distribution: 6.30/BBL	(\$35/Ton): 6.25/BBL
■ Net to Refinery: \$63.70/BBL	\$26.69/BBL
	■ Lost Value: \$37.01/BBL

\* Source - Poter & Partners

## Coking Economics

- 30,000 BBLs/Day Asphalt Production
- X 70% Gasoil Production
- 21,000 BBLs Gasoil for Gasoline/Diesel
- X \$37.01/BBL Gasoline/Diesel diff. To Asphalt
- \$771,210 per day added margin
- \$1 Billion / \$771,210 = 1,297 days (3.55 years payoff)

## FUTURE OF THE INDUSTRY

## Current Realities

- Crude production at maximum rates based on existing infrastructure
- U.S. refining running at maximum capacity
- No new refineries in the near term
- Existing refinery expansions must fill gap
- Increase crude capacity and conversion capabilities to meet light product demand
- Asphalt must keep pace with conversion feed values to encourage production
- Asphalt not as politically charged as fuels

## Factors Influencing Asphalt Price

- Absolute price of crude (WTI benchmark)
- Light/Heavy crude price differential
- Light product “crack spread”
- Coking economics
- Impact of clean fuels (sweet crudes)
- Heavy crude availability (Venezuela)
- Transportation costs
- Supply/Demand

## Future For Asphalt

- More heavy crude being run (availability and price)
- Clean fuels capital behind refiners, up-graders next?
- Asphalt is more expensive in a \$60.00+ crude world
- Asphalt has to trend faster with crude oil prices
- Asphalt has to be more competitive with light products
- Transportation costs rising – Rail, Barge, Terminalling
- Refiners less willing to shoulder price risk
- Many states implementing asphalt price indexes

## QUESTIONS