Class 7

A. Hubbert’s Peak

Peak in 1970 accurately predicted in 1955!

We import 65% of our petroleum!

This does not look good (peak in 2006?)
B. Skeptical Environmentalist

No worries?

C. DOE/EIA Expert

Hmmm....Is there a peak?
From EIA expert (Wood et al., 2004), results of USGS study

Who Is Right?

• Hubbert extension – 2006
• EIA expert – 2037 ± 10
• Skeptical Environmentalist – no worries

Alternatives?
World Energy Reserves

Data from DOE/EIA pages

Quads

US
Rest of N. America
Central and South America
Western Europe
Eastern Europe
Middle East
Asia & Oceania
Africa
Oil Sands

Oil Sands
(used to be called tar sands)

http://www.dailyreckoning.com/bin/ht/oilshale1.JPG

OIL SHALE RESOURCES

http://www.caia.co.za/graphics/sasol-process.JPG

Production Costs


• Prior to Coal Gas, all acetyl chemicals made from petroleum
• Start-up of complex in 1983 (1/2 of acetyl demand)
• Expansion of downstream plants 1991, (100% of acetyl demand)
• Debottlenecking - 1991 to Present
  Approx. 1240 Tons/Day of Coal converted to
  Higher Value Chemicals (Ac₂O, HOAc)
Eastman Gasification Process

Dr. Theodore K. Barna, Assistant Deputy Under Secretary of Defense, 2006 Aerospace in the News Executive Symposium

Eastman Chemicals from Coal – The Big Picture

It's likely you have a product in your home that is based on coal gasification from Eastman's facility!

Evaluating All US Energy Resources

Dr. Theodore K. Barna, Assistant Deputy Under Secretary of Defense, 2006 Aerospace in the News Executive Symposium

Value Added Choices For Coal

A choice to make:

Proposal:

Consumers Transportation and Security Act of 2006

Strategic Vision for Energy Independence, Jet Blue Airways

Consumers Transportation and Security Act of 2006

Strategic Vision for Energy Independence, Jet Blue Airways

Proposal:

Government guarantees 100% of the capital investment for each $4 billion plant by issuing capital of $9.4 billion or $33 million per month.

Windfall Premium

If any breakeven price is made above $75 billion, program participants would pay the government 20% of all revenue collected above $75 billion.

Consumers Transportation and Security Act of 2006

Strategic Vision for Energy Independence, Jet Blue Airways

Proposal:

It's likely you have a product in your home that is based on coal gasification from Eastman's facility!
Consumers Transportation and Security Act of 2006
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Economic Impact

- If fuel decreases from $77/bbl to $18/bbl, the consumer would save $443 billion dollars

Total Demand: 12.8 billion barrels

$77/bbl

$278 billionyr

$18/bbl

$35 billionyr

Government spending

$12 billionyr

At $18/bbl, would save

$443 billion in savings