

How to Lose **America's Cup**®



Examining Trends In

- Demographics
- Energy Supply
- U.S. Public Education
- California Infrastructure

and making the case that what we decide today determines where we will be in 2050.

H. Andrew Thornburg

California Club

January 2008

How to Lose **America's Cup**®



a Handbook for Today's MBA Candidate
who will chart America's course in
the 21st Century

H. Andrew Thornburg

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The year was 1851. Upstart America was competing with Britain, the ruler of the seven seas for 250 years, to build the fastest ships to carry the world's commerce at the dawn of the Second Industrial Revolution.



As immortalized by Ralph Waldo Emerson, when Queen Victoria was told that the schooner "America" was in the lead and on its way to victory she is said to have inquired:

"Who came second?" "Your Majesty, there is no second,"
was the reply.

2

In 1851 Queen Victoria was only in the 14th year of her 63 year reign and yet The London Merchant observed with great foresight:

"....The empire of the seas must before long be ceded to America; its persevering enterprise, its great commerce, are certain to secure this prize; nor will England be in a condition to dispute it with her. America, as mistress of the ocean, must over stride the civilized world."

3

China now is on course to soon over stride the rest of the world and win undisputed claim to the 21st Century because America is not in a condition to dispute it with her.

How to Lose **America's Cup**®

... continue to make bad policy choices

One businessman's observations on America's loss of competitiveness over the past forty years.

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Focus of Book

- examining the trends in:

- Demographics
- Energy Supply
- U.S. Public Education
- California Infrastructure

and making the case that what we do today determines where we will be in 2050.

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Today's Discussion

California Club December 2007

Introductory remarks:

- U.S. Public Education
- California Infrastructure
- Demographics

Primary remarks:

- Energy Supply Issues

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We are not making the tough decisions necessary to provide for the common good and maintain California's and the USA's competitiveness in the 21st Century.

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US Public K-12 Education

- 8% of LA Unified School District's 750,000 students can pass minimum national math and science requirements
- Of these students 9% are Caucasian, 3% Asian
- The large city public schools no longer provide an effective vehicle for preparing individuals in lower income groups for an increasingly competitive world.
- Annually the US graduates 80,000 engineers and scientists, China 440,000 albeit not of the same average quality – yet.

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California Infrastructure

- The Belmont Learning Center started in 1994 as model for rapid construction of multi-use facilities is not complete, will educate 2,500 students vs. 5,000 and has cost ½ Billion Dollars to date – the most expensive school facility ever built in the US.
- LA County generates 28% of state transportation taxes and receives 8% of state expenditures.
 - The 1964 East Los Angeles Interchange, the world's busiest, has 2 lanes for the I5 and 2 lanes for I10 which are 4 to 6 lane highways elsewhere. Result: rush hour traffic backups to Santa Monica and Orange County.
 - We spent \$800 million on the light rail Green Line from downtown. It ends a half mile and a half hour bus ride from the airport. Villaregosa's solution: a non-stop bus parallel to the Green Line.

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Demographics in 2050 – consider:

- No European country will be in the top 24
- Only 1 in 24 persons will be a US citizen
- 3 African countries will in the top 10 (none in 1950)
- Ethiopia will be number 10 (30% larger than the US in 1950)
- World 30% Muslim vs. 14% in 1950
- X? will be the fourth largest country
 - Who will it be?
 - What are the policy implications of the new demographics?

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Demographics – the Big 4 in 2050

World and By Country	1950 Rank	Population (000)			2050 Rank	Annual Growth Rates	
		1950	2000	2050		1st 50 yr	2nd 50 yr.
World		2,519,495	6,056,715	9,322,251		1.8%	0.9%
India	2	357,561	1,008,937	1,572,055	1	2.1%	0.9%
China	1	554,760	1,275,133	1,462,058	2	1.7%	0.3%
United States	3	157,813	283,230	397,063	3	1.2%	0.7%
Pakistan	13	39,659	141,256	344,170	4	2.6%	1.8%

- The Good News for the US: population growth and immigration is our underlying strength, provided we educate our youth to stay competitive.
- What happens in nuclear power Pakistan matters. We cannot ignore the country as we did during the Clinton Administration when Pakistan was arming Libya, Iran, Korea and the Taliban.

1. Change in Position - World's Top Eleven Countries by Population 2050 vs. 1950

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Indonesia	6	79,538	212,092	311,335	5	2.0%	0.8%
Nigeria	15	29,790	113,862	278,788	6	2.7%	1.8%
Bangladesh	12	41,783	137,439	265,432	7	2.4%	1.3%
Brazil	8	53,975	170,406	247,244	8	2.3%	0.7%
Dem. Rep.Congo	32	12,184	50,948	203,527	9	2.9%	2.8%
Ethiopia	24	18,434	62,908	186,452	10	2.5%	2.2%
Mexico	17	27,737	98,872	146,651	11	2.6%	0.8%
Japan	5	83,625	127,096	109,220	16	0.8%	-0.3%
Russian Federation	4	102,702	145,491	104,258	17	0.7%	-0.7%
Germany	7	68,376	82,017	70,805	25	0.4%	-0.3%
France	11	41,829	59,238	61,832	28	0.7%	0.1%
United Kingdom	9	50,616	59,415	58,933	30	0.3%	0.0%
Italy	10	47,104	57,530	42,962	43	0.4%	-0.6%

US / Mexico Populations

5 to 1 in 1950, will it be 3 to 1? or 2 to 1? in 2050

Examine the sensitivity of the underlying assumptions and their implications when formulating cross border economic and immigration policy

Comparison	1950 Rank	Population (000)			2050 Rank	Annual Growth Rates	
		1950	2000	2050		1st 50 yr	2nd 50 yr.
USA	3	157,813	283,230	397,063	3	1.18%	0.68%
Mexico	17	27,737	98,872	146,651	11	2.57%	0.79%
Mexico as % USA pop.		18%	35%	37%			
<i>Growth</i>							
	USA		125,417	113,833		1.18%	0.68%
	Mexico		71,135	47,779		2.57%	0.79%
	Mexico as % USA		57%	42%		219%	117%
But What Mexico's Population Growth Rate Stays at 1.25% per year after 2000?							
USA	3	157,813	283,230	397,063	3	1.18%	0.68%
Mexico	17	27,737	98,872	184,266	11	2.57%	1.25%
	Pop. Growth Mexico		71,135	85,394			
	Mexico as % USA pop.	18%	35%	46%			
	Error in Estimate			37,615			
				44%			

- Mexico's oil production declines starting in 2008
- Tourism, remittances from expatriates and drugs are other external sources of non-petroleum income

Demographics – Power Politics in 2050

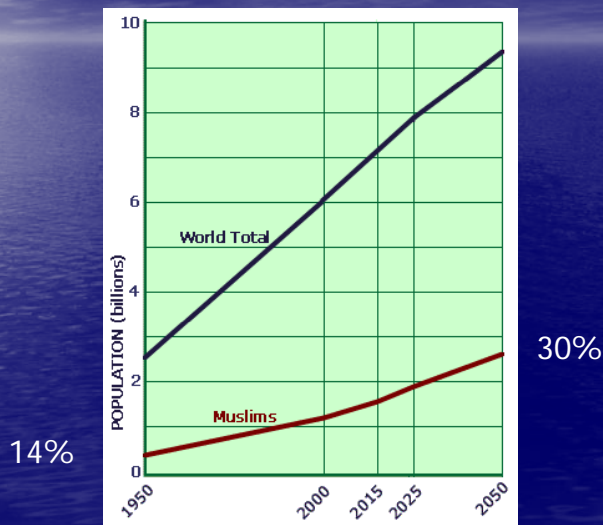
Nuclear Club Grows

Population as % World	1950	1950	2000	2050	2050
Rank	Rank				Rank
India	2	14.2%	16.7%	16.9%	1
China	1	22.0%	21.1%	15.7%	2
United States of America	3	6.3%	4.7%	4.3%	3
Pakistan	13	1.6%	2.3%	3.7%	4
Iran (Islamic Republic of)	28	0.7%	1.2%	1.3%	14
Russian Federation	4	4.1%	2.4%	1.1%	17
France	11	1.7%	1.0%	0.7%	28
United Kingdom	9	2.0%	1.0%	0.6%	30
Dem. People's Rep. Korea	34	0.4%	0.4%	0.3%	62
Israel	122	0.0%	0.1%	0.1%	93
% World Population in Club			10.3%	49.2%	45.2%

- What will the power structure in the UN Security Council look like in 2050?
- Who else will follow Korea's and Iran's lead in nuclear blackmail?
- A country's foreign exchange reserves will more likely be more important than nuclear weapons in 2050.

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Muslim Populations – which model: the 13th Century? or the 21st Century?



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Today's MBA How to chart a new course

Forty years ago our MBA international study group took months to assemble the data to figure out which way the prevailing wind would blow in the future world economies.

In 2007 all of the data in this presentation can be found on the Internet in a matter of days.

It is unfortunate that most of our political leaders and media commentators do not make the commitment to gather and consider all the facts before they promote or oppose a particular public policy.

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1970 – 1972 NYU STUDY GROUP

THE CHALLENGE: To select and mock negotiate two business case studies that we believed had the potential to affect our entire business career.

We choose motor vehicles and oil:

- 1. CHRYSLER/MITSUBISHI MERGER** - By 1970 ten Japanese car companies already manufacture four million cars at less expense and with more advanced technology than Detroit who dominates the world markets. In the US one in seven jobs was dependent on decisions made by the Big 3. Loss of US competitiveness is of concern to us.
- 2. OPEC NEGOTIATIONS** - At the time there was an oil glut with crude at \$1.80 per barrel (\$6.25 in 2006) but demand and dependence on foreign sources was growing rapidly. Third world countries were nationalizing natural resources.

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1970 – 1972 NYU STUDY CONCLUSIONS AND RECOMMENDATIONS

1. There would be energy crisis by the mid-1970's.
2. The US automotive industry seemed incapable of dealing with the changed reality: the need to reduce pollution, lower costs and to protect themselves from potential cost increases in oil.
3. The US needed a comprehensive energy policy, of which the following were among the most important conclusions:
 - Raise fuel taxes by \$0.50 per gallon (\$1.95 in 2006 dollars) over 3 years; then to European rates over time.
 - Raise fleet mileage standards to European and Japanese levels.
 - Without energy independence, understand that if Saudi Arabia or Kuwait oil supplies fall into hostile hands, there is no choice but to send in the Marines immediately.

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SUBSEQUENT MAJOR EVENTS 1970 – 2005

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Postscript to the NYU Study

- After the 1973 oil embargo Congress under President Ford enacted automobile fleet mileage standards. They worked. President Carter promoted conservation. As energy prices fell in the early 1970's President Reagan exempted light trucks from fuel mileage standards under Union and Big 3 pressure.
- In the 1970's Detroit produced only the absolute minimum of high mileage cars leaving itself exposed to the oil crisis caused by the Iranian Revolution. It missed the 1990's window to get its costs in line and gave into labor agreements that were not sustainable. It learned nothing from the 1970's oil shock. They were unprepared for 9/11 and the price pressure placed on world energy supplies by China.
- No action was taken on gasoline taxes, a political third rail. Tax on 35% more fuel efficient diesel was raised because it was not paid directly by the consumer.

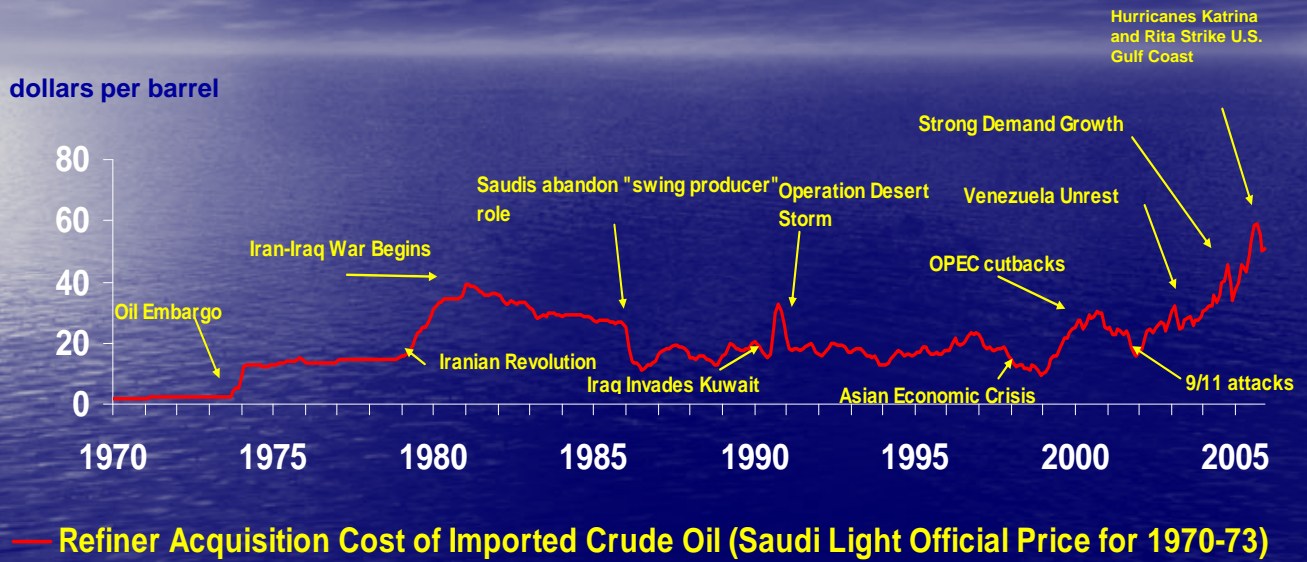
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Postscript continued

- Iraq invaded Kuwait in 1990 and President Bush senior had no choice but to send in the Marines. In 2007, six presidents since 1970, we still have no alternative to wars over oil.
- To increase budget surpluses in the 1990's Clinton did not fill the Strategic Reserve to capacity when oil prices were at 50 year lows. Worse he tapped the reserve before the 2000 election to keep gasoline prices from rising.
- Oscar winner Al Gore as the self proclaimed environmental Vice President did nothing to develop a comprehensive and economically feasible energy policy during his eight years in office. Even today some of his key Global Warming proposals are simply absurd. For example, he wants the US to immediately cap CO2 emissions at current levels without having a fuel mix that would allow us to accomplish the task.

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Major Events and World Oil Prices 1970-2005



"The Iraq War was about oil."

**Alan Greenspan
The Age of Turbulence**

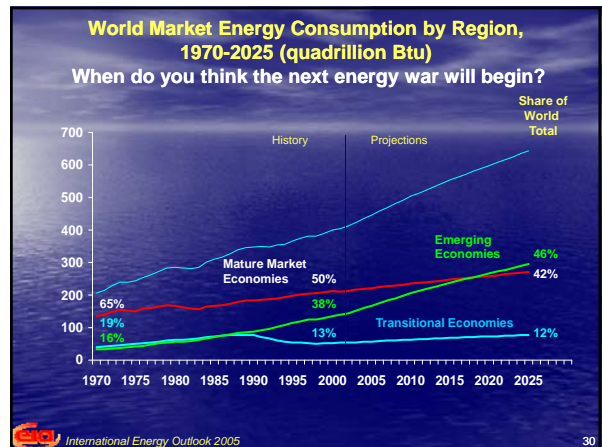
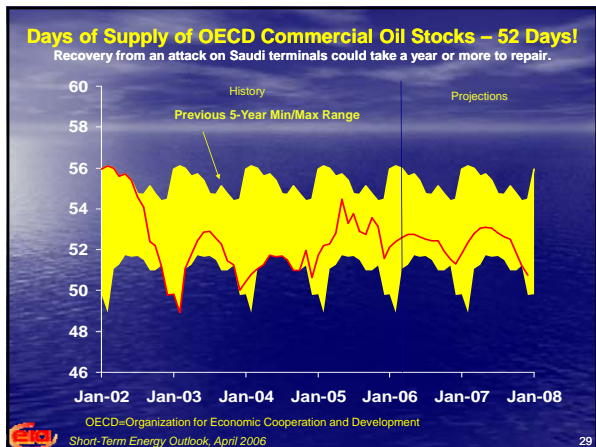
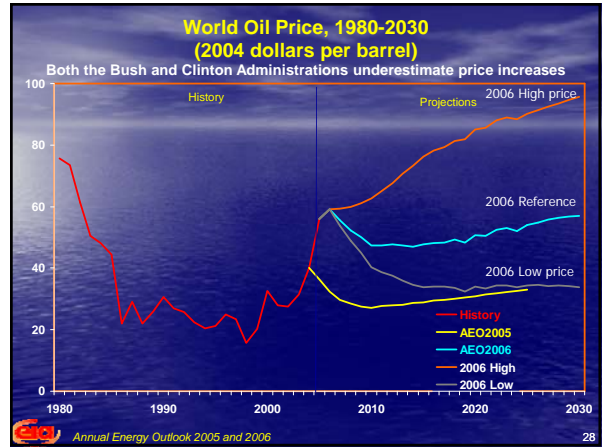
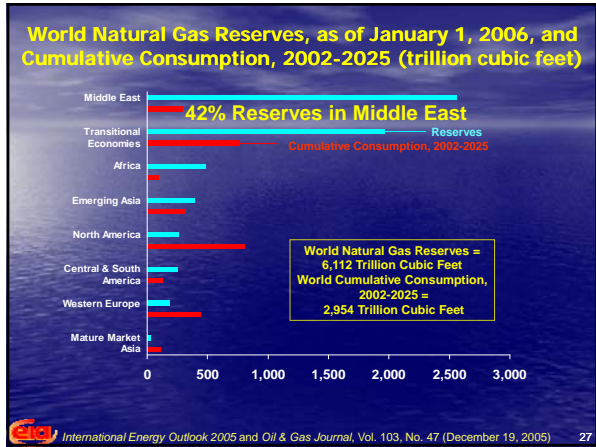
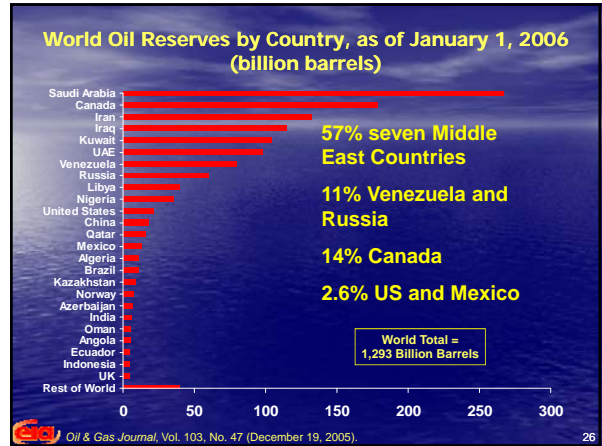
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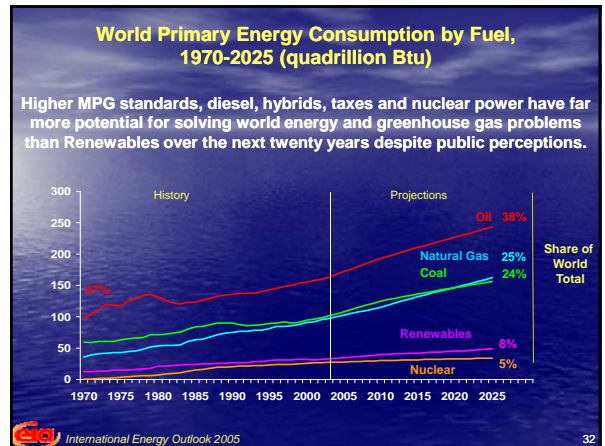
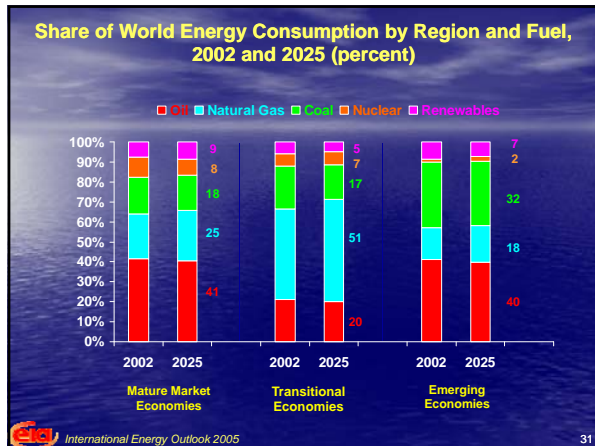
**US policy failures by both political parties,
and
the shortsightedness of autos Big 3's
Management and Labor Leaders over the past
forty years coupled with consumer/voter
addiction to waste, low energy prices and big
vehicles have redefined the term:**

"GROSS INCOMPETENCE"

**We are more at risk from an energy crisis now
than in 1970.**

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US Energy Dependence Impacts

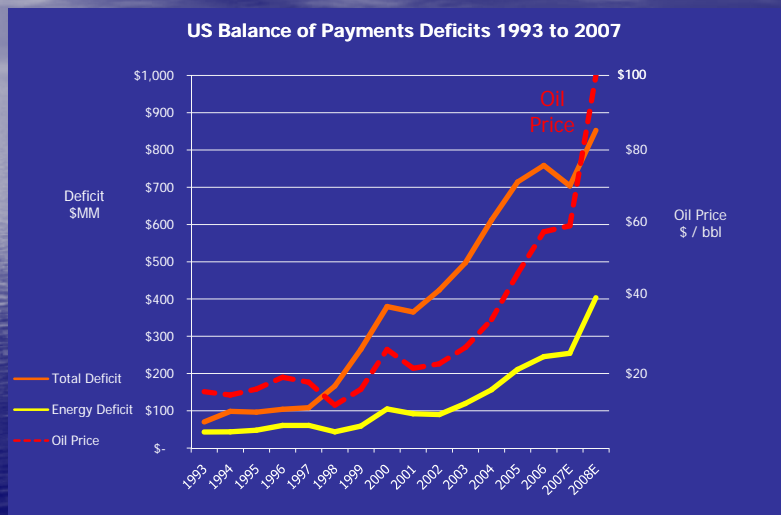
- Need for military presence in Middle East
- Strengthening of adversaries
- Uncertainty regarding potential shocks
- Lower GNP and Employment
- Inflation
- Balance of Payments Deficit
 - Weak dollar
 - Transfer of wealth
 - Reduced borrowing capacity

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Imported Energy and Its Impact on US Balance of Payments

At \$60 / bbl the 2007 energy import deficit is \$250 billion

At \$100 / bbl the 2007 energy deficit increases to \$400 billion in 2008



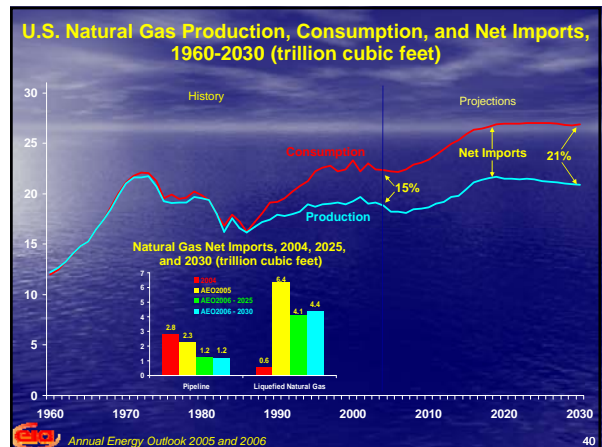
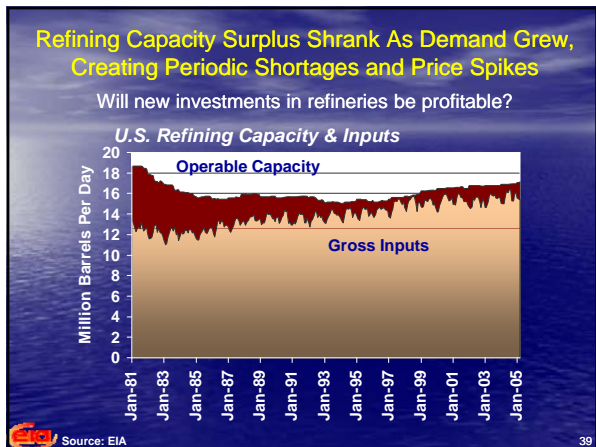
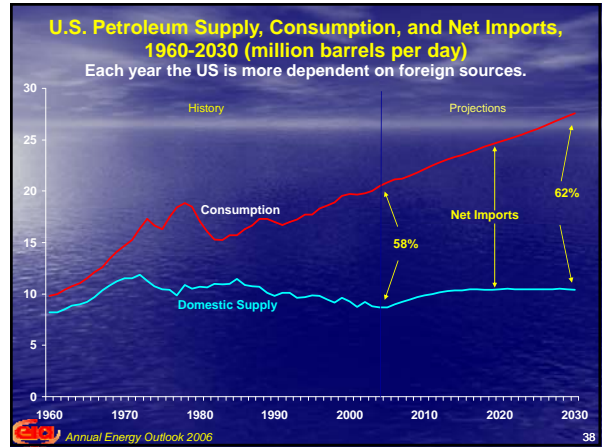
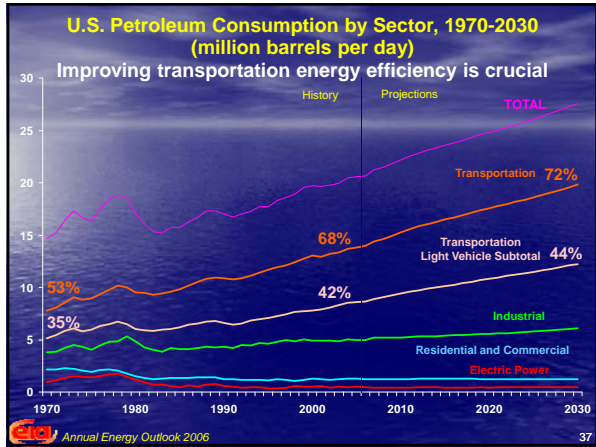
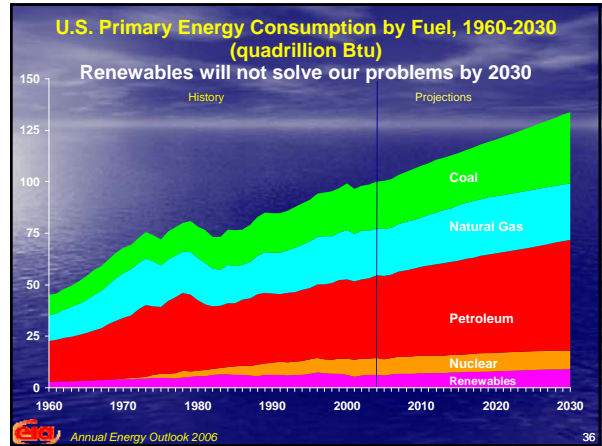
Consequences: weak dollar, transfer of wealth to oil producers, lower GNP, unemployment, inflation and reduced borrowing capacity 34

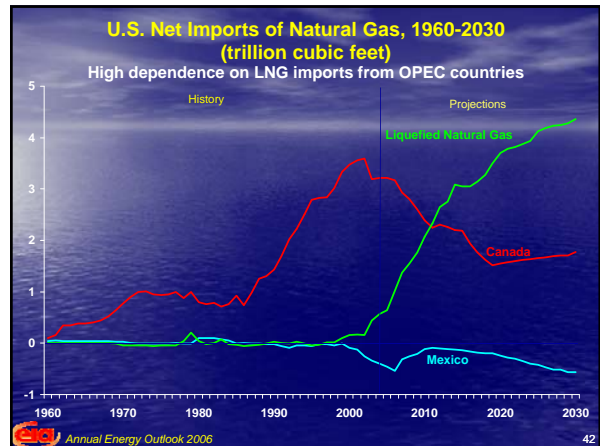
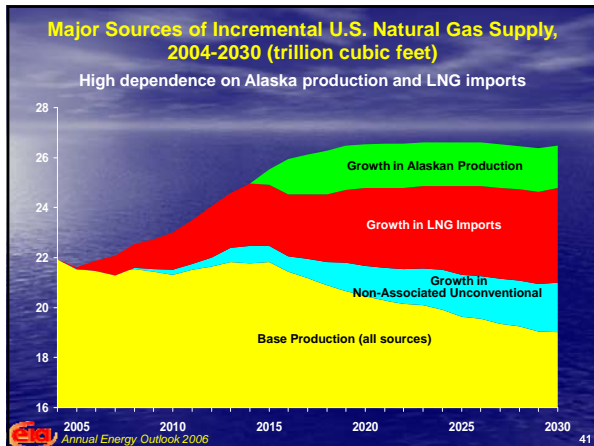
US ENGERY SUPPLY and DEMAND

Between now and 2030 conservation and nuclear power are the only viable ways to achieve energy independence and to significantly lower greenhouse gas emissions.

Renewable energy sources are too limited to have a significant impact on the problem over this critical time frame.

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U.S. PETROLEUM

The US has 1.6% of world reserves.
 Transportation uses 72% of supplies.
 We do not have to invent anything new to find a solution our transportation problems. European vehicle efficiency is already 44% higher than that of US vehicles. Ethanol from corn is an expensive boondoggle. We suffer from a lack of collective political will to pursue obviously sound long term polices.

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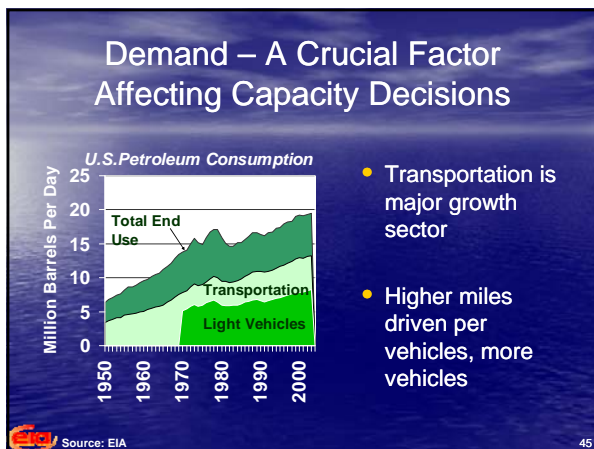
The Road Ahead for Light Duty Vehicle Fuel Demand

Joanne Shore
 Energy Information Administration

July 7, 2005

Creating awareness of the need for fuel mileage standards has been a very long road – over 15 years!

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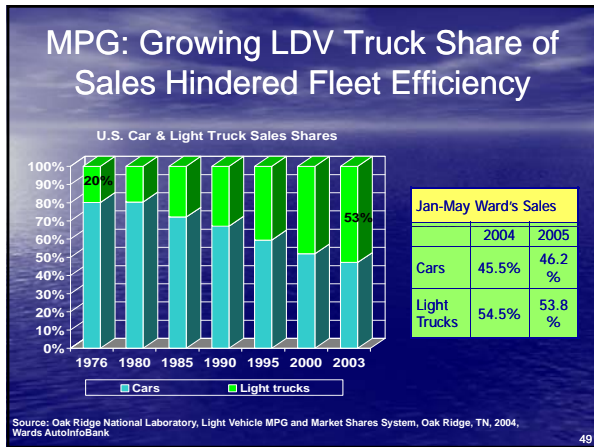
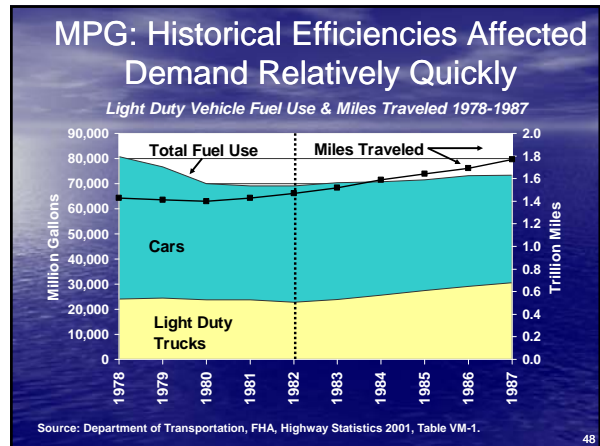
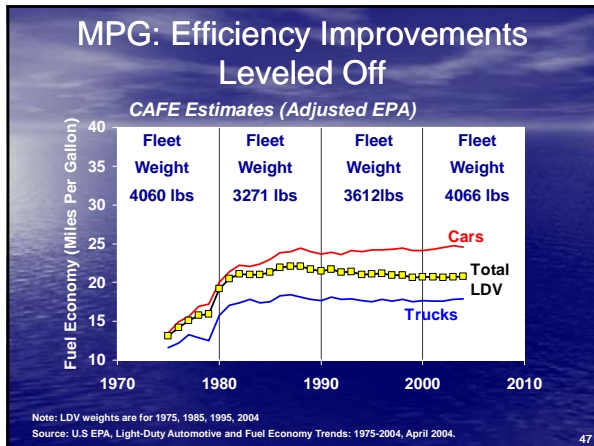


U.S. & EU Trends Affecting Efficiency

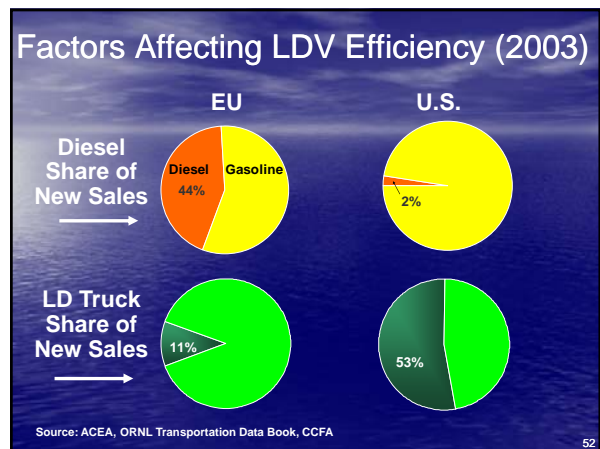
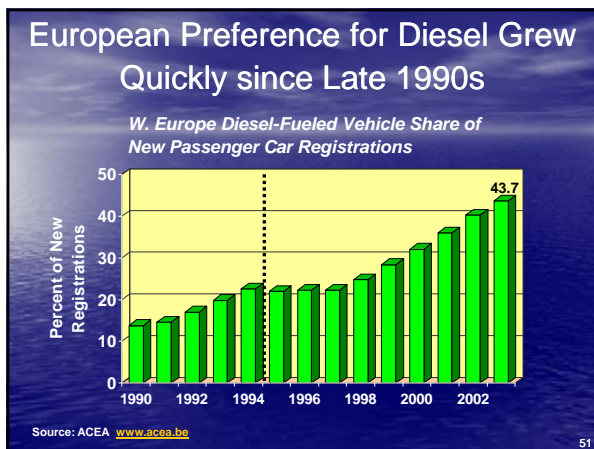
	Values in 2002		Percent Change 1995-2002	
	EU-15	U.S.	EU-15	U.S.
Population (Millions)	380.4	288.4	2.0%	8.3%
LDVs per 1000 Population	488	766	14.8%	5.5%
Vehicle Weight (pounds)	2,677	3,951	10.3%	9.4%
Fuel Economy (MPG)	35.6	24.7	15.2%	-0.8%

Sources: ACEA, ORNL Transportation Data Book, EPA Automotive and Fuel Technology Trends 75-04, Michael Walsh

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- ### European Model
- Goal to reduce demand, carbon dioxide emissions (greenhouse gas) concerns
 - Increased diesel preference over gasoline
 - Fuel savings while preserving performance (35% more efficient than gasoline vehicles)
 - New LDV diesel penetration more than doubled in 6 years: 22% in 1997 to 44% in 2003
 - Tax incentives plus targets
 - High fuel taxes and taxes favoring diesel
 - Purchase incentives for more efficient vehicles
 - Economics favor technology improvements
 - Voluntary industry CAFÉ standards



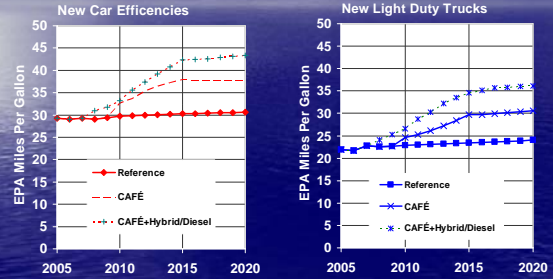
EU Lessons?

- Diesel may play larger role in the U.S. future
 - Environmental emissions being overcome
 - Consumer issues overcome in Europe, and could become a positive relative to gasoline
 - But fuel cost advantage may diminish
- Basic population growth and car-dependency issues will make slowing U.S. demand a larger challenge than in EU.
- U.S. would need to improve efficiency on large fraction of new vehicles to see impact
 - Europe's diesel momentum in 1995 helped produce a 15% improvement in MPG in 7 years
 - Would unlikely be achievable in the US during next 7 years

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New Vehicle MPG Profiles

Adoption CAFÉ standard is good, adding hybrid diesel to the mix is much better

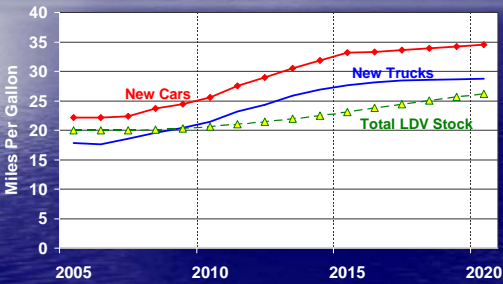


Source: EIA

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Even Fast Penetration of High Efficiency Vehicles Can't Change Total Stock Quickly

CAFÉ + Hybrid/Diesel Efficiency Effect

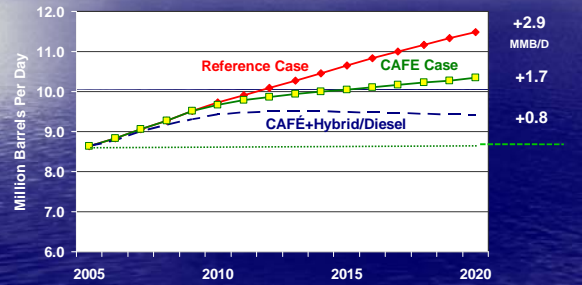


Source: EIA

55

By 2020, CAFE Case Requires 40% (1.7 mmb/d) Less Additional Supply Than Reference Case

Increase in Light Duty Vehicle Fuel Use 2005-2020



Source: EIA

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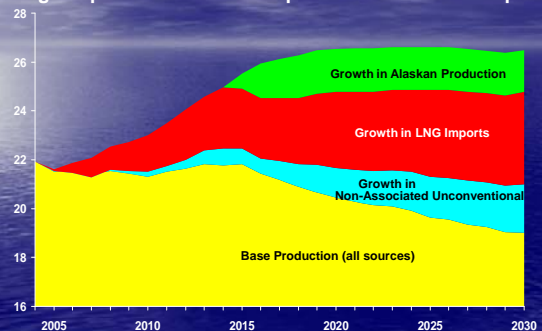
U.S. NATURAL GAS

In short supply and an immediate problem. Demand can only be met by very large imports of foreign LNG and tapping Arctic natural gas reserves. The situation in California is particularly critical.

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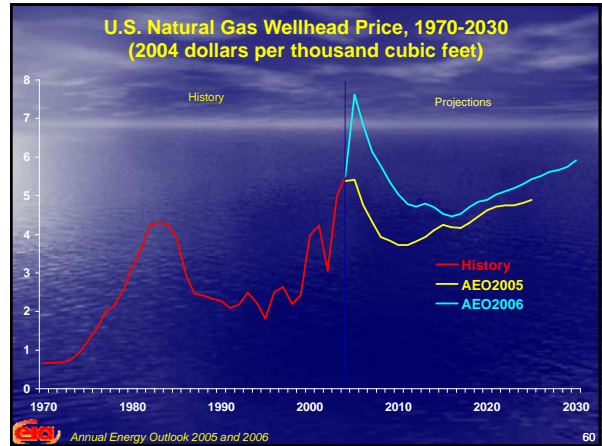
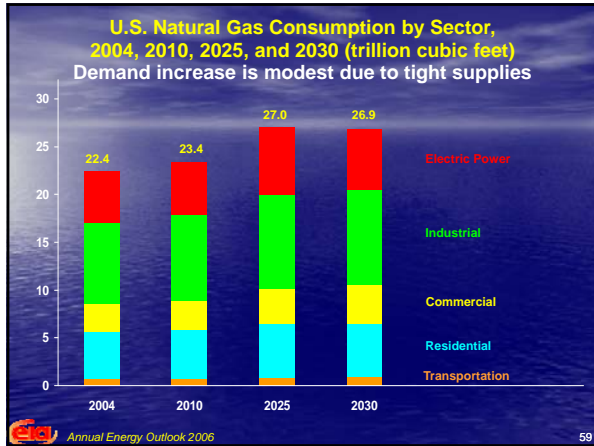
Major Sources of Incremental U.S. Natural Gas Supply, 2004-2030 (trillion cubic feet)

High dependence on Alaska production and LNG imports



Annual Energy Outlook 2006

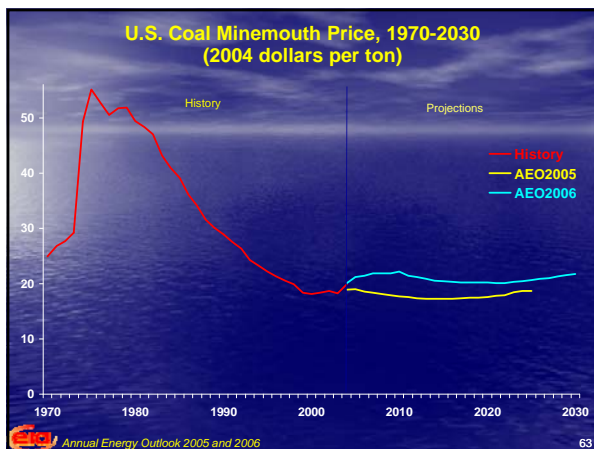
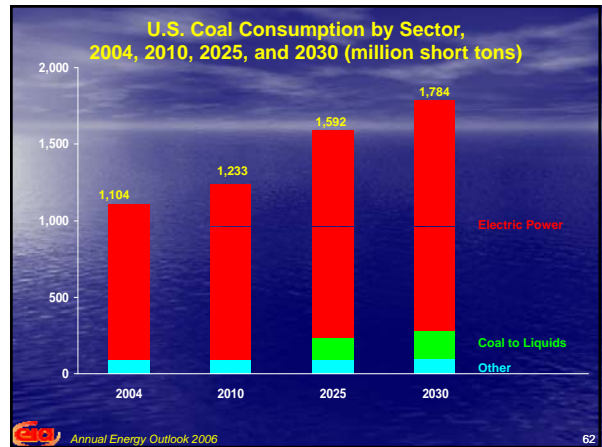
58



U.S. COAL

The US is the Saudi Arabia of coal with 300 plus years of reserves.
 An abundant, relatively cheap but dirty fuel.
 Best left for future exploitation when newer technologies are developed and proven.
 Political courage required to reverse plans to expand the use of coal to generate electricity.
 Nuclear power is clearly superior.

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ELECTRICITY

US greenhouse gases in 2030 will be 35% higher if we do not change our fuel mix and conserve energy.
 Nuclear fuel produces minimal greenhouse gases.
 New technology light bulbs have the potential of lowering heat and energy required to light by homes and businesses by 80%. Currently landlords have no incentive to install more costly energy saving devices because tenants pay for the energy.

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ELECTRICITY

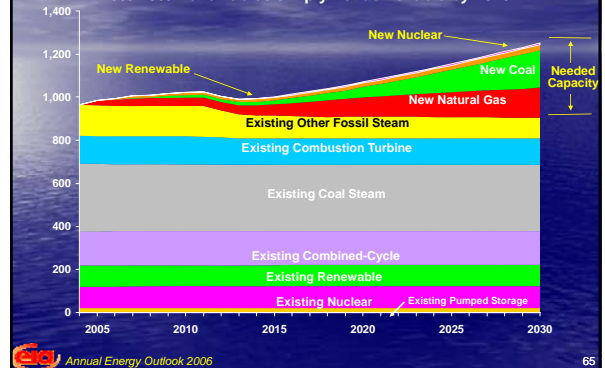
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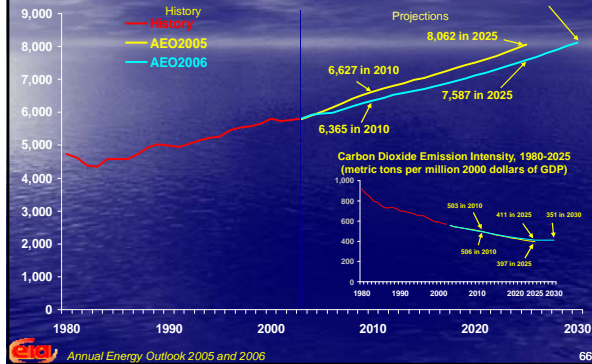
U.S. Electricity Generating Capacity, including Combined Heat and Power, 2004-2030 (gigawatts)

15%-25% Renewables simply not achievable by 2025



U.S. Energy-Related Carbon Dioxide Emissions, 1980-2030 (million metric tons)

Coal is not the answer

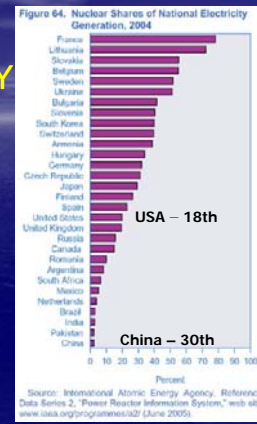


NUCLEAR ENERGY POLICY

2004
FRANCE 75%
US 20%

2020
FRANCE 90%
US 15%

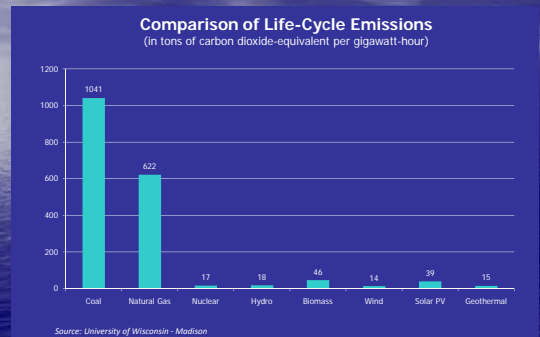
NEW PLANTS
CHINA 44
US 0 in 2005

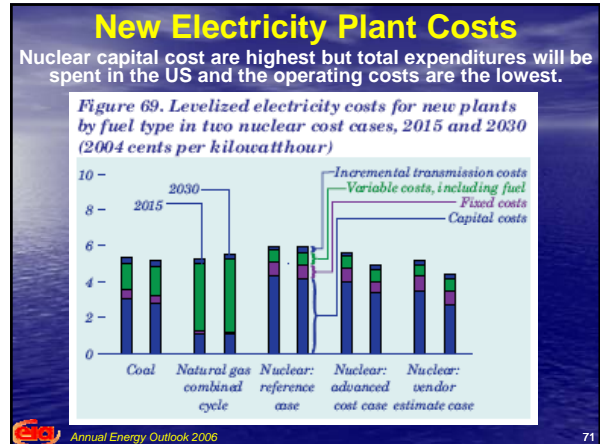
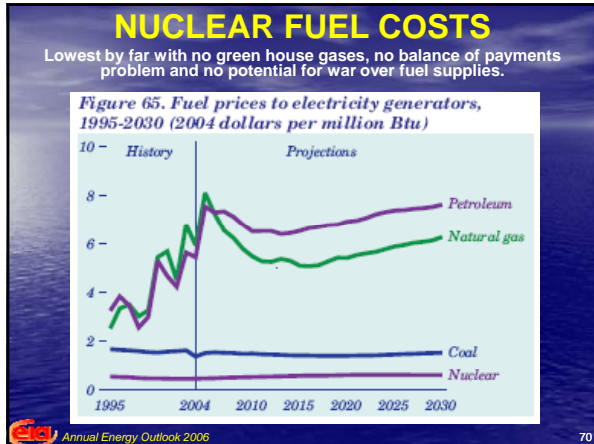


THE CASE FOR NUCLEAR POWER

- Near zero greenhouse gases
The volume of greenhouse gas emissions prevented at the nation's 103 nuclear plants is equivalent to taking 96 percent of all passenger cars off America's roadways.
- Lowest operating costs
- Balance of payments improved
 - Fuel source – weapons and US uranium
 - Capital costs spent in US
 - US exports
 - US employment

NUCLEAR POWER'S POTENTIAL TO REDUCE GREENHOUSE GASES

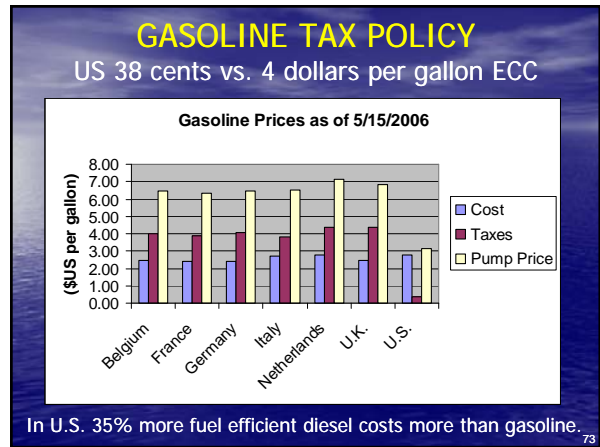




CONGRESSIONAL ENERGY FOLLIES

Congress: where making the wrong decision based on miss-information and political expediency has been raised to an art form.

72



Mandating Vehicle MPG

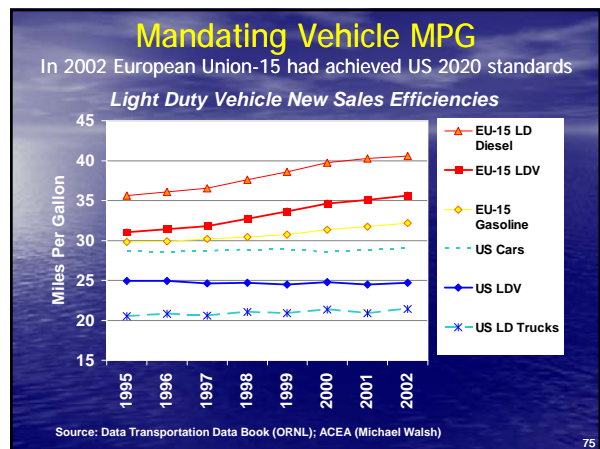
Before We Congratulate Ourselves on This Possible New Legislation

CONSIDER:

In 2002 the European Union-15 had already achieved the new US 2020 standards.

We are not being aggressive enough.

74



Fascination With Impractical Near Term Solutions

- Hydrogen vehicles
- Impractical targets (15-25% renewables by 2025)
- Ethanol vs. Diesel Fuel
 - Relatively inefficient source of energy
 - More fuel required per mile
 - Increases food prices
 - Decreases US farm exports
 - Subsidizes sub-optimal use of farmland
- Ignoring conservation (mileage, lighting, heat)
- Ignoring nuclear energy

76

Congress goes into a 'brain deep freeze' whenever it legislates on Alaskan Oil and Gas.

- The Alaskan oil pipeline is now operating at 35% of peak capacity and declining causing increased corrosion. Prudhoe Bay oil will be exhausted in less than 10 years and valuable infrastructure will be rendered useless. ANWAR is 60 miles from Prudhoe Bay and the oil reserves are generally considered to be about 35% as large.
- Prudhoe Bay and other arctic reserves are large. Each day 8 billion cubic feet of natural gas, enough to supply all residential consumers in the US, are re-injected at Prudhoe Bay because for forty years Congress has blocked building an Arctic gas pipeline.
- Massive oil spills and threats to wildlife are the objections cited regarding developing ANWAR and offshore deep drilling. No one mentions the relative risks of water borne imports and foreign production accidents related to supplying the US market against the risks of the domestic development footprint.
 - ANWAR – approximately 2,000 acres are required for drilling pads and roads in an area the size of New England excluding Maine – 19.2 million acres.
 - On a fifty-mile wide map of Alaska the Alaskan pipeline right-of-way is the width of a pin.

77

Getting Our Priorities Straight

- Environmental objections to ANWAR and offshore deep drilling

➢ In the development of Prudhoe Bay threats to Central Arctic Caribou herd were also raised. According to government studies in 1972 the herd numbered 5,000. In 2002 it numbered 32,000. Environmentalists from the Lower 48 claim ANWAR's Porcupine Caribou Herd numbering 130,000 is different. Local Eskimos who know both herds disagree.

➢ During the Kuwait and Iraq oil wars more than 4,000 US soldiers have died. It took more than a year to put out the oil well fires and clean the birds in Kuwait. It is time to seriously question members of Congress regarding their trade off calculus between birds, humans, dependence on the kindness of dictators and the increasing cost of aircraft carriers.

- The high cost of 1970 Prudhoe Bay legislation

In the 1970's against the recommendations of the oil companies:

➢ Congress mandated that Prudhoe Bay oil not be exported to Asia thereby creating a heavy crude glut on the West Coast. California's light crude refineries had to be modified to accept heavy crude with a lower yield of gasoline. The pipelines from Texas to California had to be reversed to take away excess crude. Residual Bunker C fuel for tankers was sold at a discount in LA rather than at full price in Asia.

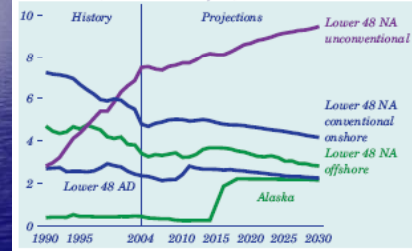
➢ As a subsidy to US ship builders and American flag carriers, crude was permitted to be carried on single hulled US ships like the Valdez instead of larger and more efficient double hulled vessels.

78

ALASKAN FOLLIES - NATURAL GAS

Alaskan gas is essential. Prudhoe Bay/ANWR gas remains untapped.

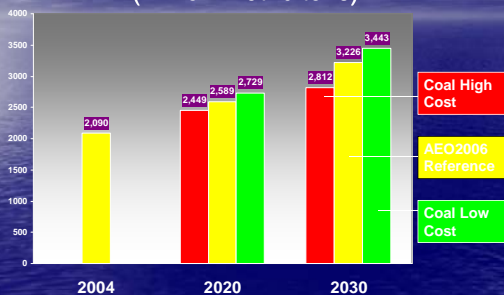
Figure 73. Natural gas production by source, 1990-2030 (trillion cubic feet)



Annual Energy Outlook 2006

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Projected Carbon Dioxide Emissions from Coal the current policy fuel of choice, 2020 and 2030 (million metric tons)



Annual Energy Outlook 2006

80

CLINTON VS BUSH

The Record vs. the Rhetoric

Identifying the long term challenges facing the US

81

Getting Our Priorities Straight

- Environmental objections to ANWAR and offshore deep drilling

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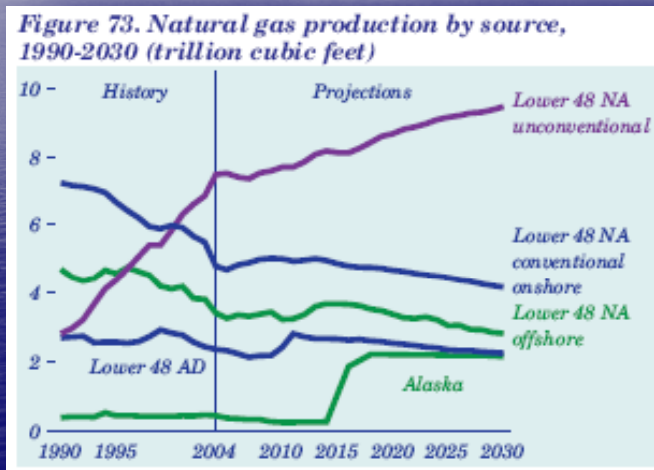
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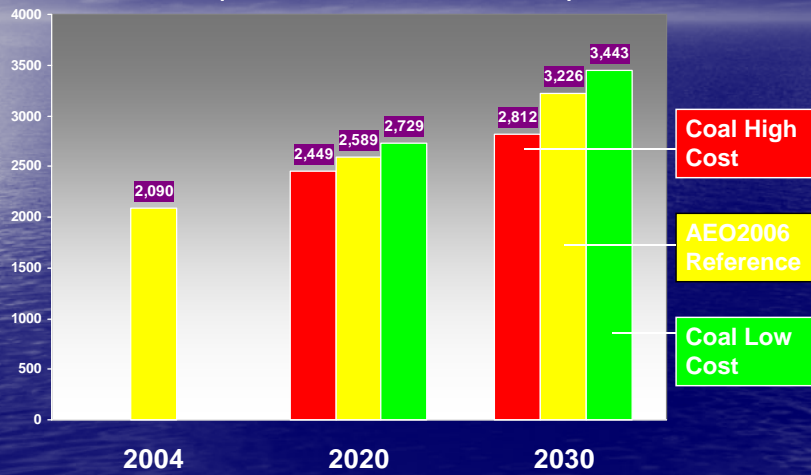
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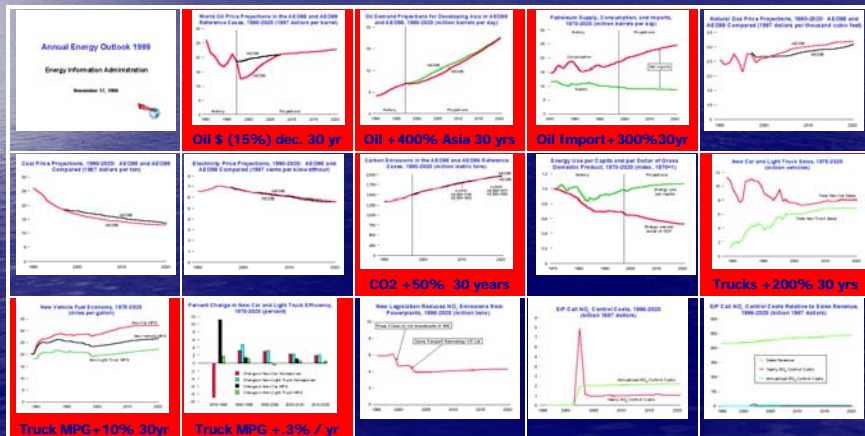
CLINTON/GORE

After seven years in office in 1999 the Administration's first annual report on both domestic and world energy outlooks consisted of just four typewritten pages and fourteen slides.

Clinton/Gore EIA Annual Report 1999



Four pages text, fourteen slides (no red flags in text)



BUSH/CHENEY

In stark contrast the EIA website in 2007 contains a wealth of information on energy use, sources and alternative policies.

The World and Domestic Outlook reports are 150 to 200 pages in length.

84

Bush/Cheney EIA Reports 2006

eia Energy Information Administration
Official Energy Statistics from the U.S. Government

The screenshot shows the EIA website interface with several main sections:

- Petroleum:** Crude oil, gasoline, heating oil, diesel, propane, jet fuel, and other petroleum based products...
- Natural Gas:** Exploration and reserves, storage, imports and exports, production, prices, sales...
- Electricity:** Data, revenue and prices, power plants, fuel use, abatement, generation, trade, demand & emissions...
- Coal:** Reserves, production, prices, employment and productivity, distribution, abatement, reports and exports...
- Nuclear:** Uranium fuel, nuclear reactors, generation, spent fuel...
- Renewable & Alternative Fuels:** Includes hydroelectric, solar, wind, geothermal, biomass and ethanol.
- International:** Country energy information, detailed and overview...
- Forecast & Analysis:** Identify and yearly energy forecasts, analysis of energy topics, financial analysis, Congressional reports...
- Historical Data Overview:** The latest monthly and yearly statistics across all fuels, state data...
- Households, Buildings & Industry:** Energy use in homes, commercial buildings, manufacturing and transportation...
- Environment:** Greenhouse gas data, voluntary reporting, electric power plant emissions...
- Energy Kids Page:** Classroom projects, games, energy banks...
- Latest Data:**
 - Crude Spot Price - \$5.42/BBL
 - 11 of 12 hours avg: +1.20 (yr) / +23.22
 - Total Gasoline Price - \$15.02/GAL
 - 2.007 \$/Bbl = W. Crd. + 0.018 (Mkt) = 0.174
- Publications & Reports:**
 - Crucial & Diesel Fuel Update
 - The Road to Hydrogen
 - Summer Fuel Outlook
 - Annual Energy Outlook 2006
- Announcements & News:**
 - White Paper
 - Press
 - Presentations, Testimony, Events
 - Upcoming Reports
- Resources:**
 - Energy Basics 101
 - Survey Forms
 - Ask An Expert
 - Glossary

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CLINTON/GORE 2020 Estimates

Despite the paucity of data in the 1999 Clinton Report, it did contain the projections on key issues such as the emergence of China, insufficient increases in fuel efficiencies, increasing greenhouse gas emissions and increasing dependence on foreign oil and gas.

Yet the Clinton Administration offered no guidance on policy.

86

Bush vs. Clinton 2020 Estimates

eia Energy Information Administration
Official Energy Statistics from the U.S. Government

Actual 1990	2020 ESTIMATES	Clinton/Gore 1999	Bush/Cheney 2006	Difference
\$30.00	Oil Price per barrel (\$ 2004)	\$28.00	\$50.00	79%
17	US Oil Consumption (mm bpd)	25	26	4%
10	US Oil Imports (mm bpd)	16	17	6%
4	Asia Oil Consumption (mm bpd)	18	22	22%
	Asia & US Import Increase vs. 1990	20	25	25%
\$109,500	Oil Imports (2004 \$ billion / year)	\$163,520	\$310,250	90%
28	Car Mileage (mpg)	32.1	32.5	1%
20.0	Light Truck Mileage (mpg)	22.0	24.0	9%
3.5	New Light Trucks (mm)	7.0	7.2	3%
4,900	CO2 (mm mt)	7,350	7,200	2%
		150%	147%	

Physical estimates are remarkably close and show looming crisis.
(balance of payments, sourcing & global warming)
Clinton's cost estimates are inexplicably low given demand increase.

87

CLOSING COMMENTARY

88

How to Lose **America's Cup**®

Wake up America, in 2001 it took only 19 people one hour to create a US recession and cause us to launch a global war on terrorism.



Iraq, Kuwait, Iran and Saudi Arabia in hostile hands, or having their oil supply crippled by an attack on key facilities, has the potential to bring the whole world to its knees in a month.

Longer term, within 13 years the Chinese will have an economy the size of ours and India will not be far behind. Today the US, with 5% of the world's population, uses 25% of the world's energy, much of which is increasingly supplied by foreign sources.

89

How to Lose **America's Cup**®

As in 1970, in 2007 the data shows the impending next energy crisis. As before, it is not if, but when. In 1973 it was an Arab boycott, not a lack of resources that crippled the world economy for more than ten years.



We have currently available technology and policy alternatives that will enable US the to become energy independent and protect the environment.

What is lacking is the collective political will to have a bi-partisan commitment to prevent others from controlling the course for our economy and our way of life.

90

How to Lose **America's Cup**®

... continue to make bad government policy choices and bad business decisions in critical industries.

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