



American Energy Production in the Arctic Coastal Plain

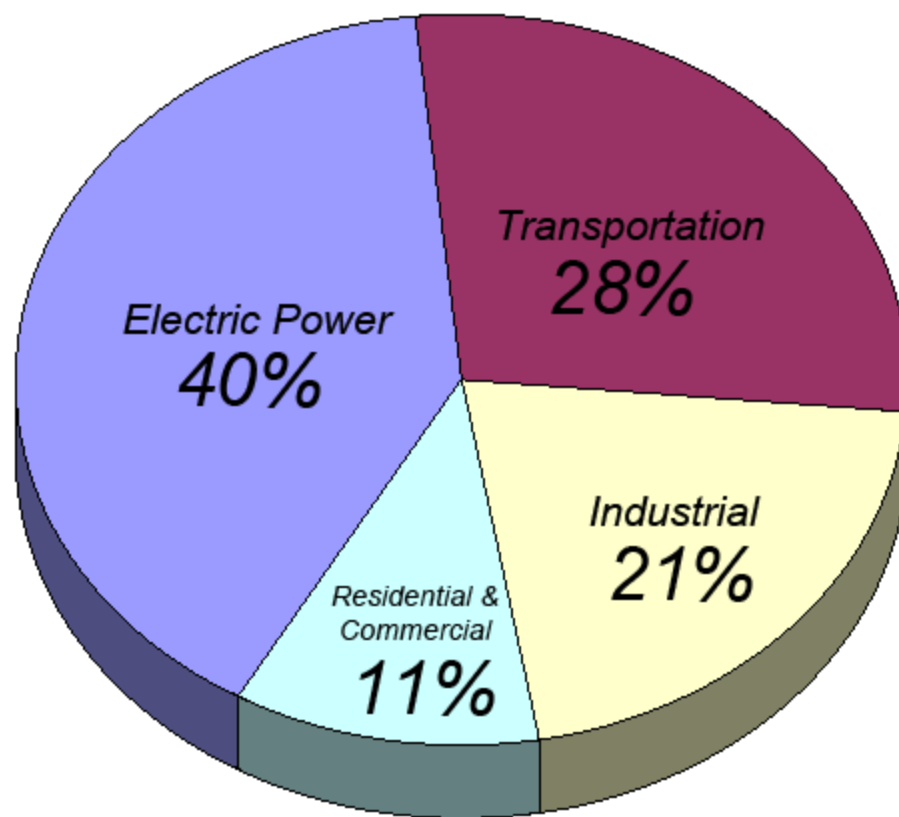
News Conference

June 12, 2008

Congressman Roscoe Bartlett

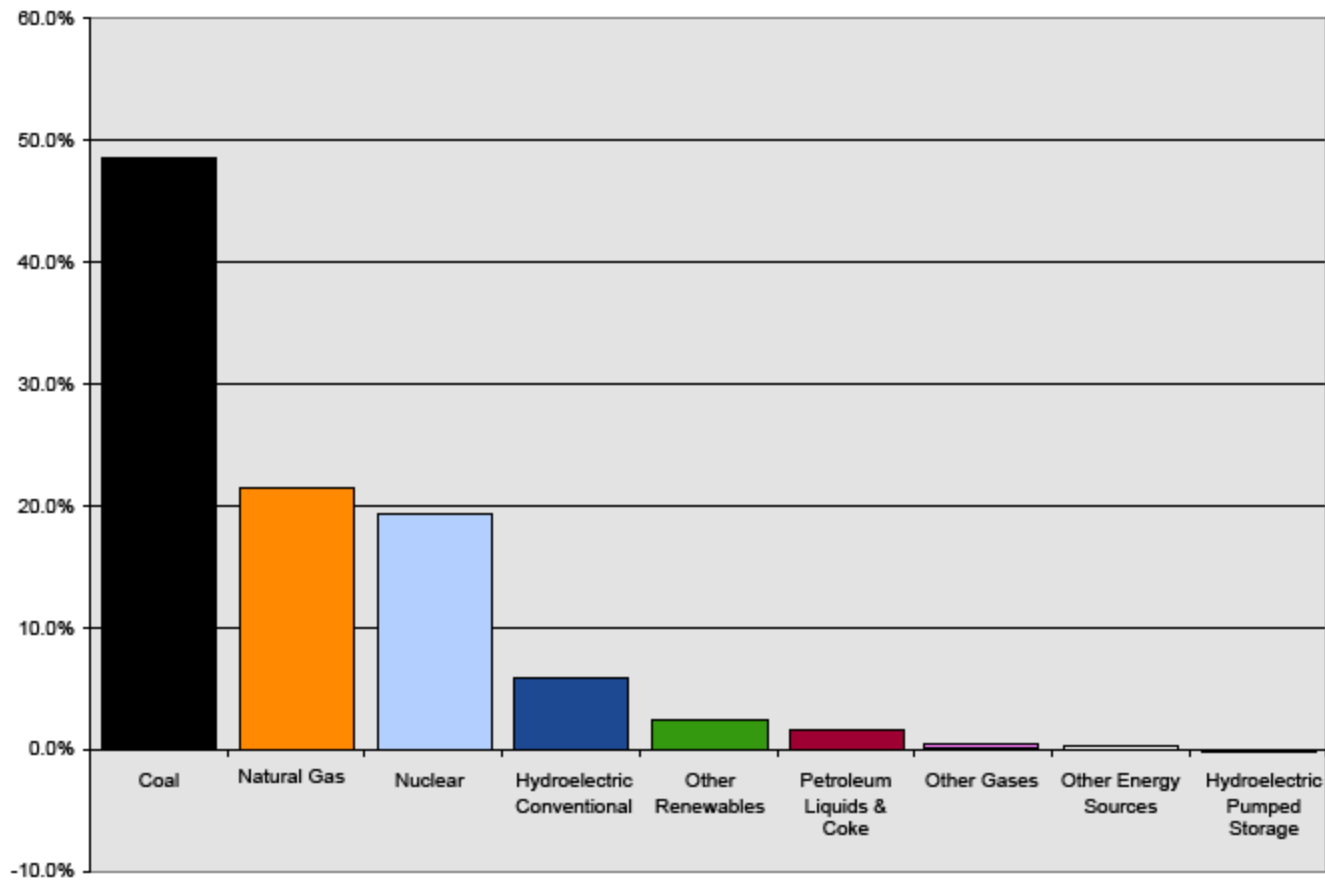
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U.S. Energy Consumption by Sector 2005



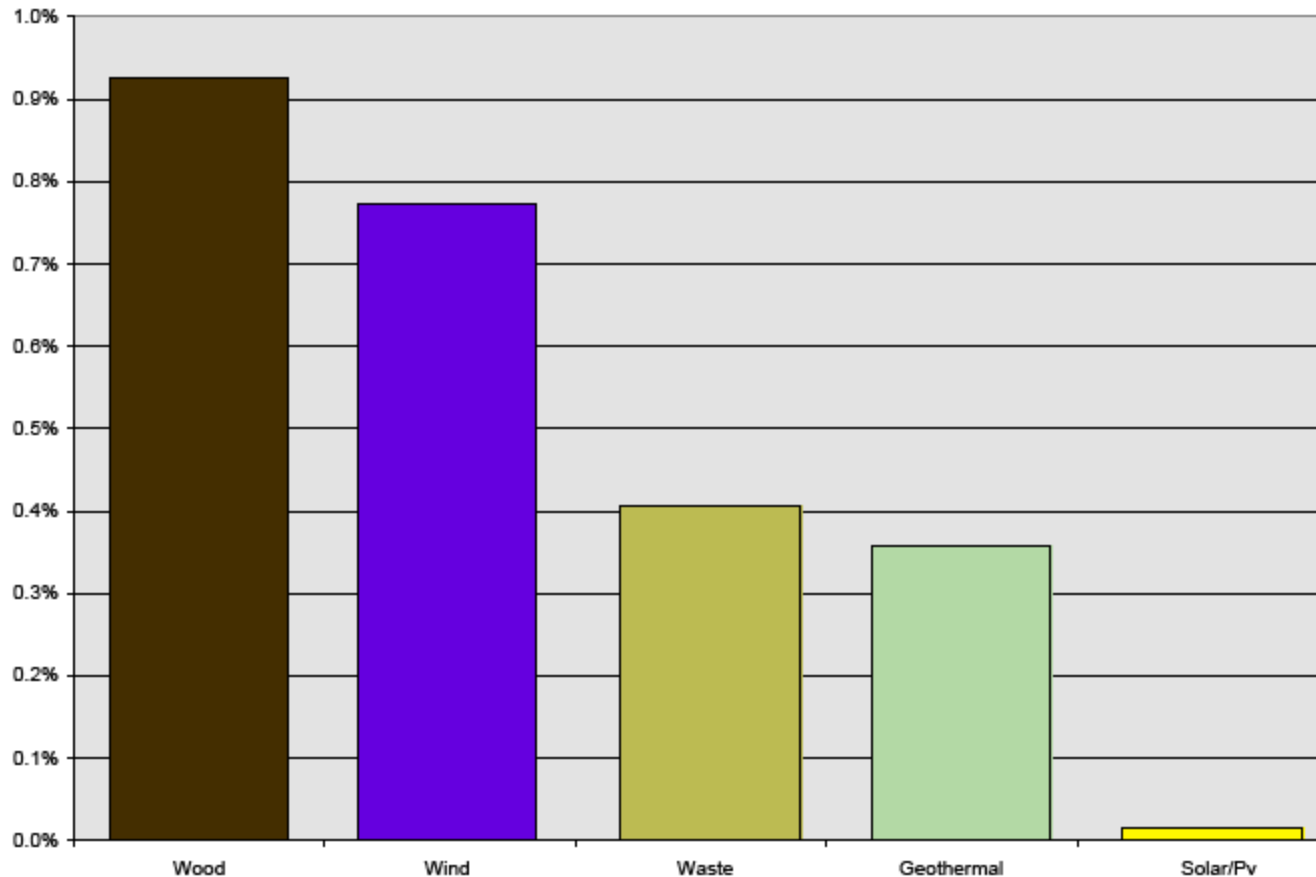
Source: U.S. Energy Information Administration

U.S. Electricity Generated by Fuel Source 2007



Source: Electric Power Monthly March/2008

U.S. Electricity Generation by Renewables Breakout of 2.5% for 2007



Source: Electric Power Monthly March/2008

Alternatives to Oil: **Finite**

Unconventional Oil

- ▶ Ultra Deep Water/Polar
- ▶ Tar Sands
- ▶ Shale Oil

Coal

- ▶ Coal-to-Liquids or Natural Gas

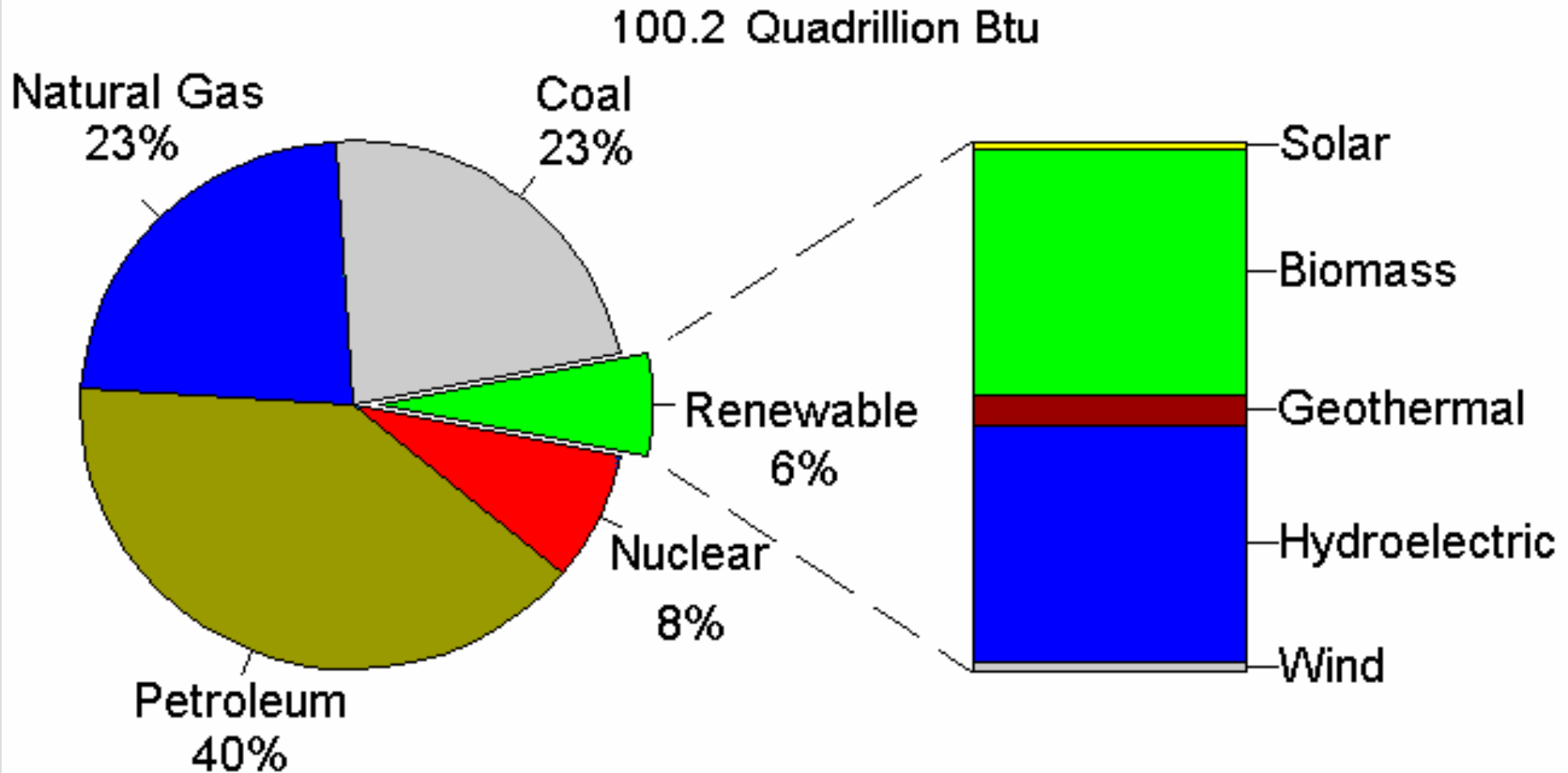
Nuclear

- ▶ Fission, Breeder Reactors, Fusion

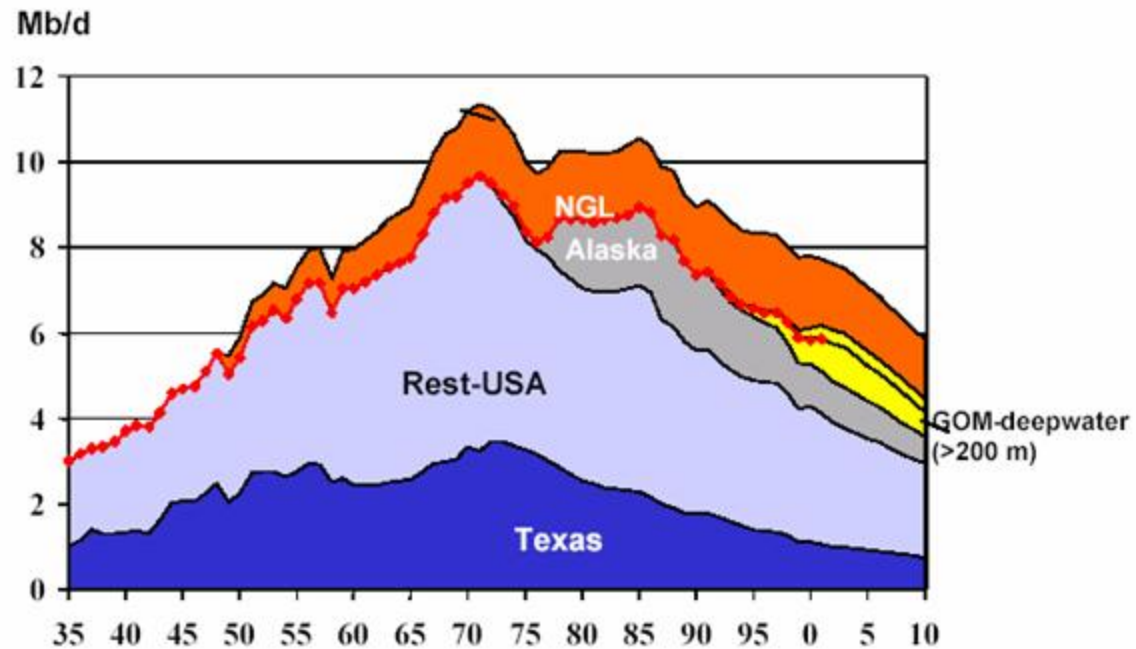
Alternatives to Oil: Renewables

- ▶ Solar
- ▶ Wind
- ▶ Geothermal
- ▶ Ocean Energy – waves, ocean thermal energy conversion (OTEC)
- ▶ Agricultural Resources
 - ▶ Soy/biodiesel
 - ▶ Ethanol: corn or cellulosic
 - ▶ Methanol
 - ▶ Biomass, wood
- ▶ Waste to Energy
- ▶ Hydrogen (from renewables)
- ▶ Conventional Hydro, Pumped Storage and Micro Hydro
- ▶ Methane Gas Hydrates

2004 US Energy Consumption



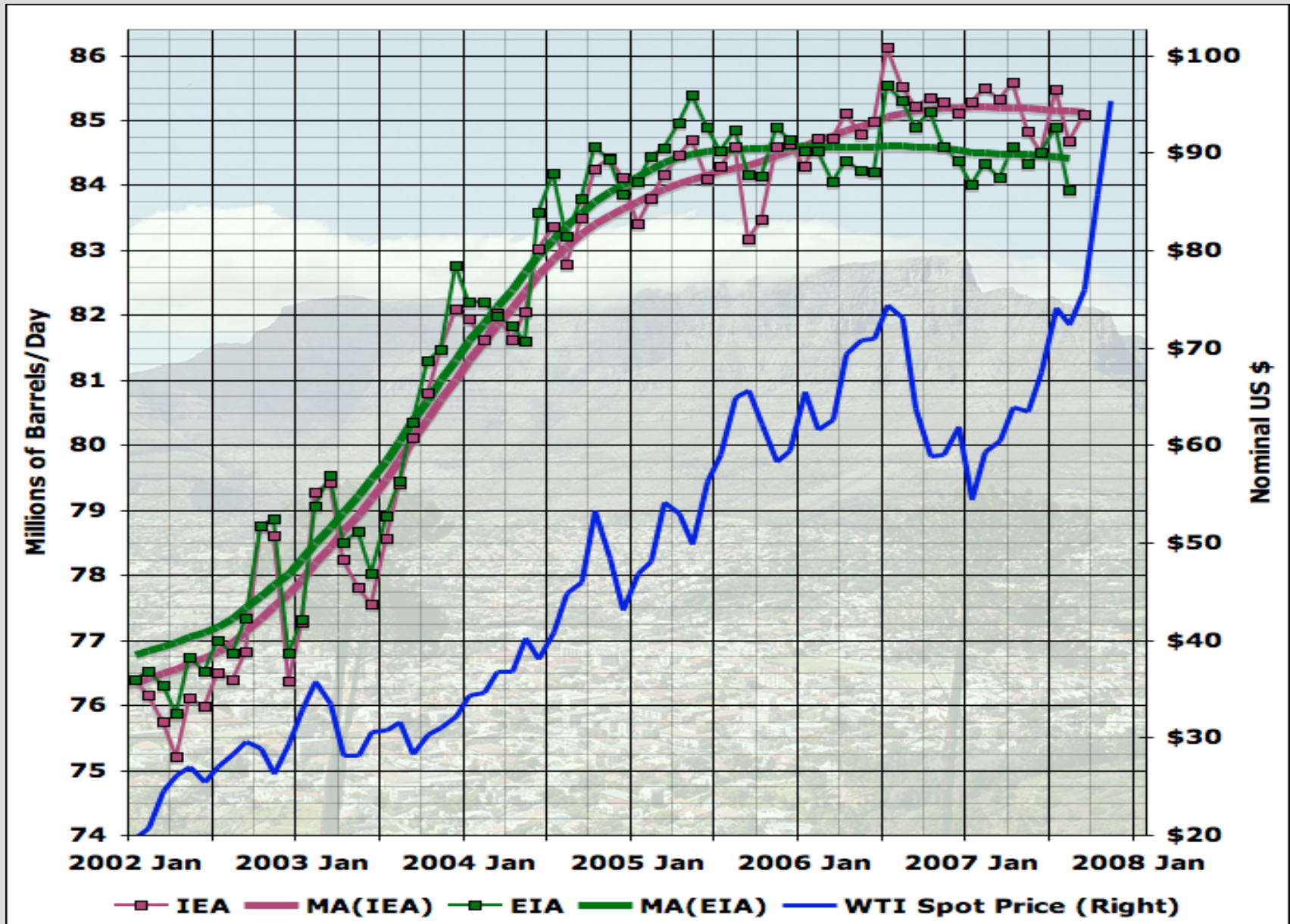
USA – Production forecast to 2010 incl. nc oil



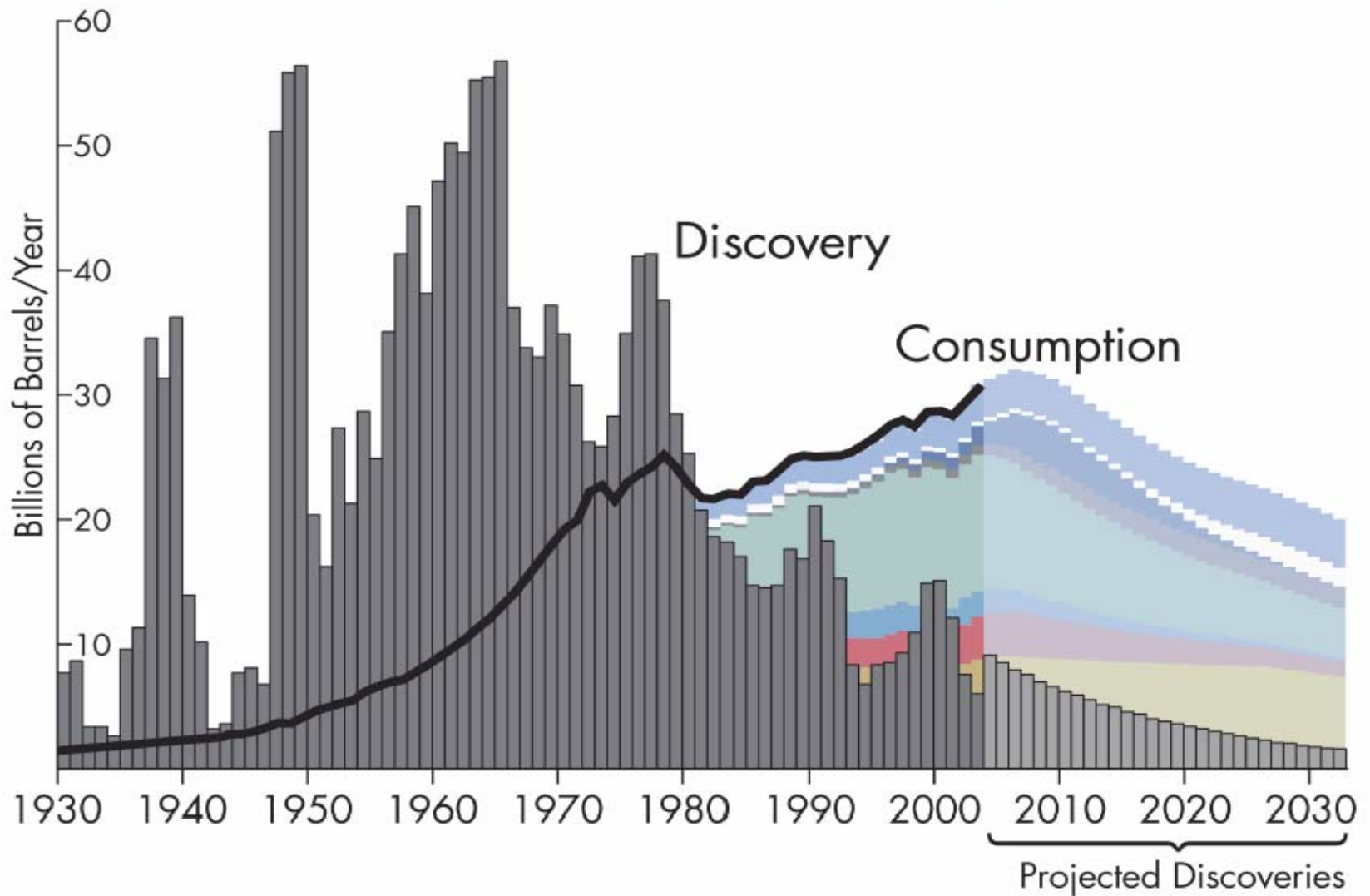
Source: Texas Railroad Commission, US Energy Information Administration

Figure 4: The future oil production profile for the declining oil regions of Texas and Rest of the USA is controlled simply by the physics of depletion, allowing a straightforward extrapolation of existing trends.

Peak Oil – Are we there yet?

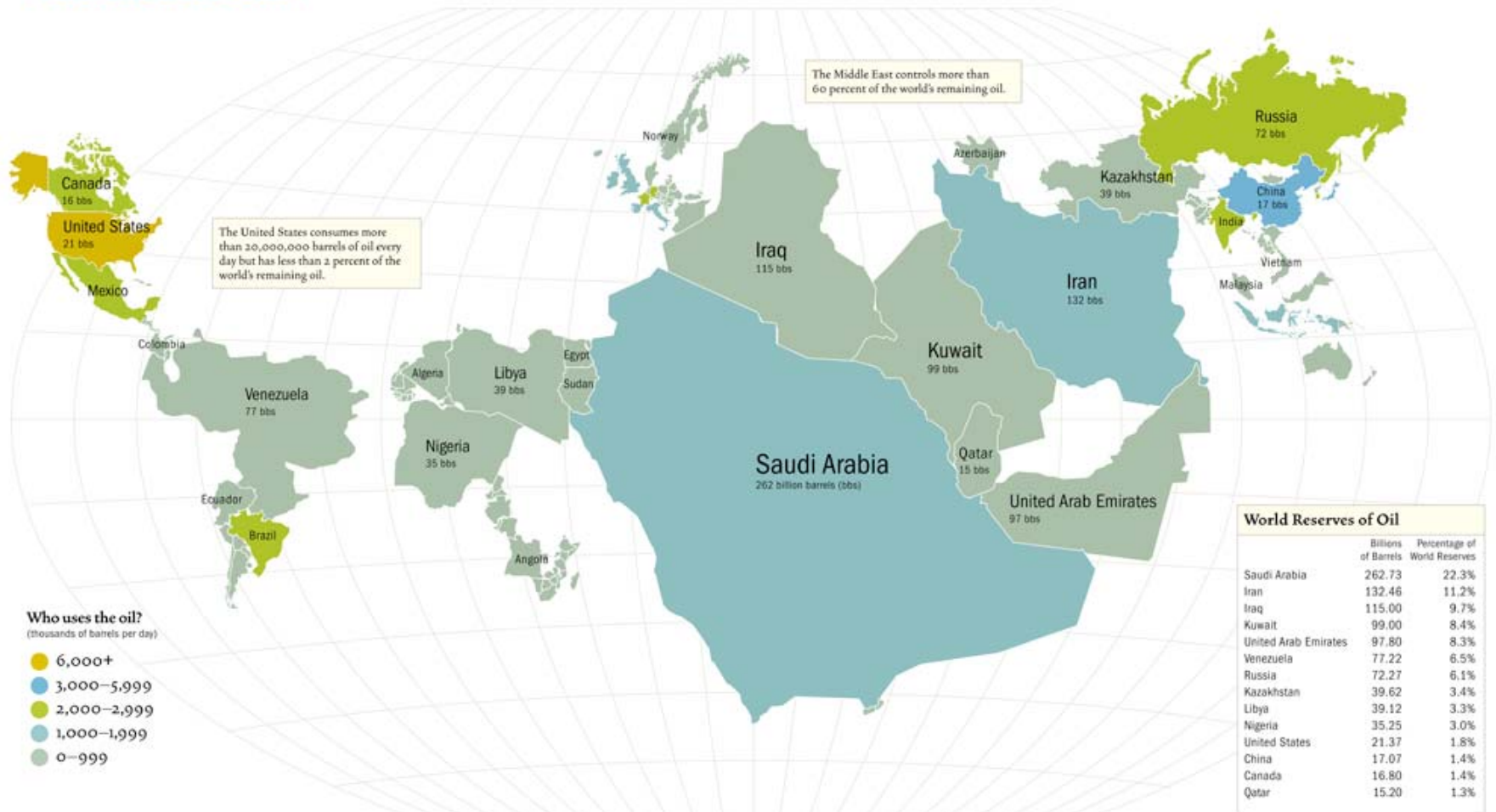


Peak Oil – The Growing Gap



The World According to Oil

Who has the oil?



Each country's size is proportional to the amount of oil it contains (oil reserves); Source: BP Statistical Review Year-End 2004 & Energy Information Administration



The United States and Oil

- **2%** of World Reserves
- **8%** of World Oil Production
- **5%** of World's Population
- U.S. Consumes **25%** of World's Oil Production
- More than **60% imported**
- **70% of oil is used for transportation**
- **U.S. transportation is dependent upon oil for 97 percent of its energy – *a proportion unchanged since 1974.***

World Oil Peaking is going to happen

- World production of conventional oil will reach a maximum and decline thereafter. That maximum is called the peak.
- **Oil Peaking Presents a Unique Challenge. The world has *never* faced a problem like this.** Without massive mitigation more than a decade before the fact, the problem will be pervasive and will not be temporary. Previous energy transitions (wood to coal and coal to oil) were gradual and evolutionary; **oil peaking will be abrupt and revolutionary.**

Hirsch Report #1: "Peaking of World Oil Production: Impacts Mitigation, and Risk Management," Department of Energy, February 2005



Five Federal Government Peak Oil Reports

- **DOE Report #1 "Hirsch,"** February 2005
- **U.S. Army Corps of Engineers,** September 2005
- **DOE Report #2,** July 8, 2006
- **Government Accountability Office (GAO),**
March 29, 2007
- **National Petroleum Council,** Fall, 2007

We are all in the same boat!



For More Information

<http://www.bartlett.house.gov/EnergyUpdates>