The Rise of the Energy Farmer – Oklahoma Biofuels Update

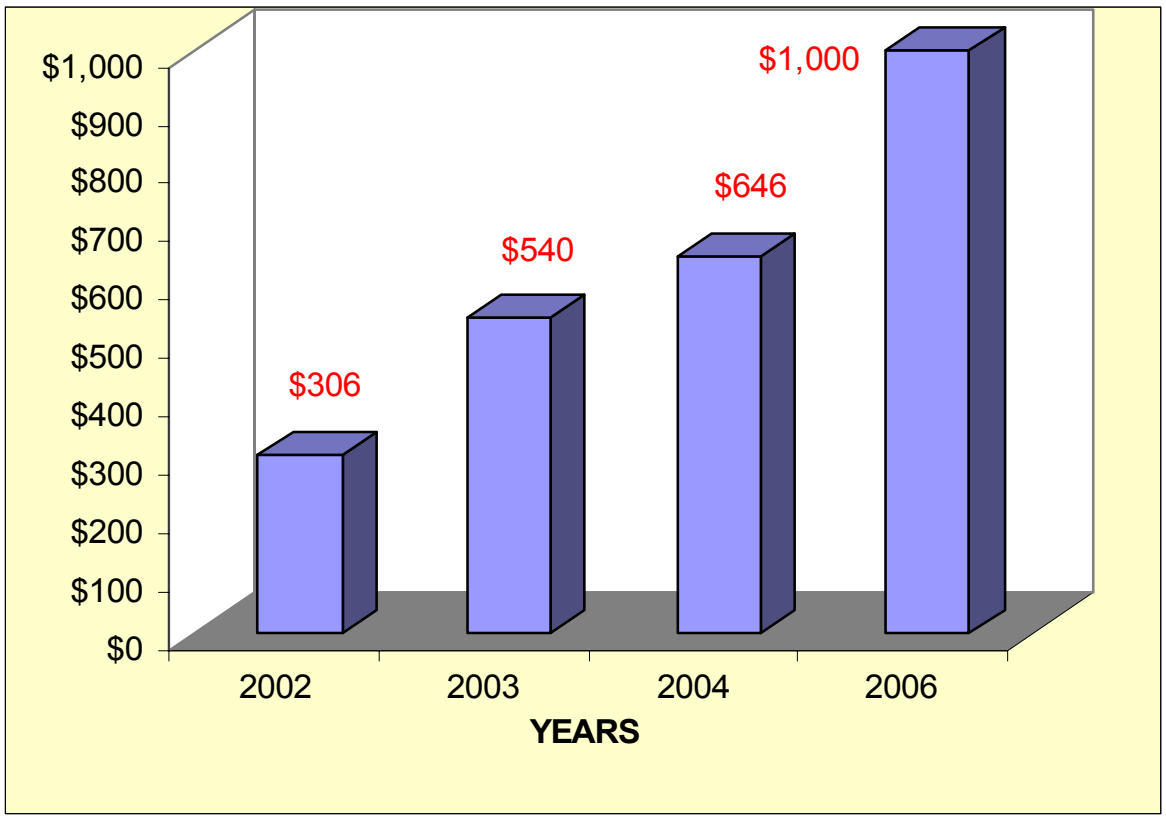
Bobby Wegener, Deputy Secretary of Energy

State of Oklahoma

Oil and Gas Sector

The Oil and Gas Sector is the Engine Driving the Oklahoma Economy

Gross Production Tax Proceeds



$2,750,000 Million Per Day in 2006

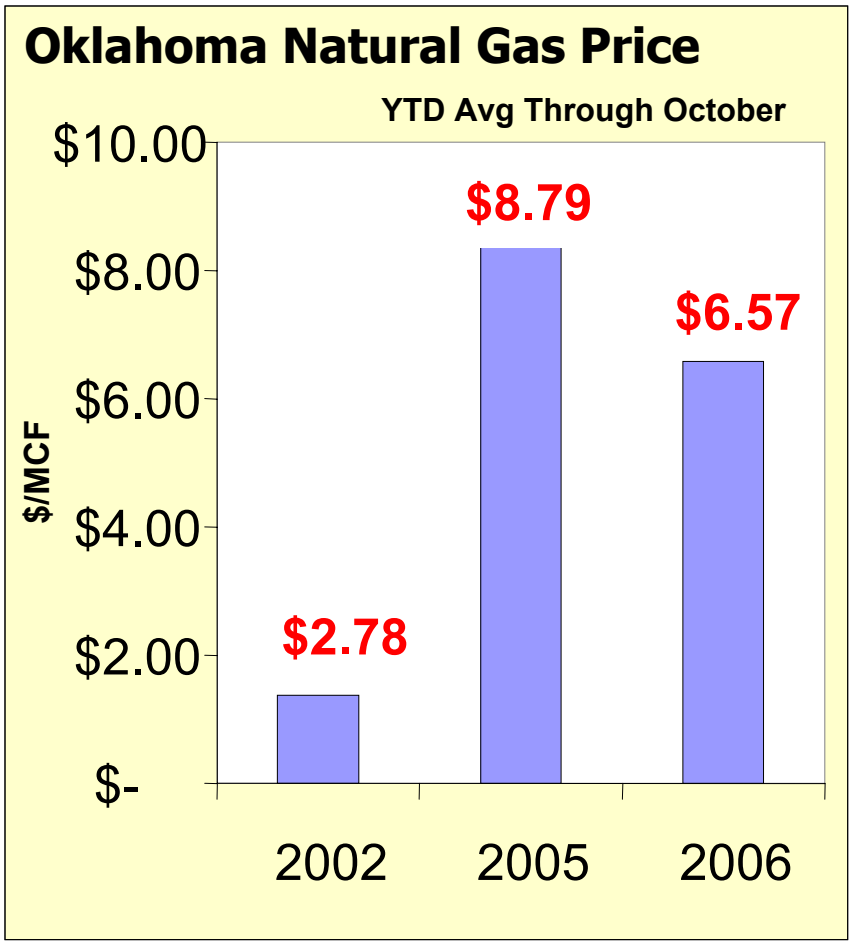
Oil Production and Revenues in Oklahoma,1995 - Present

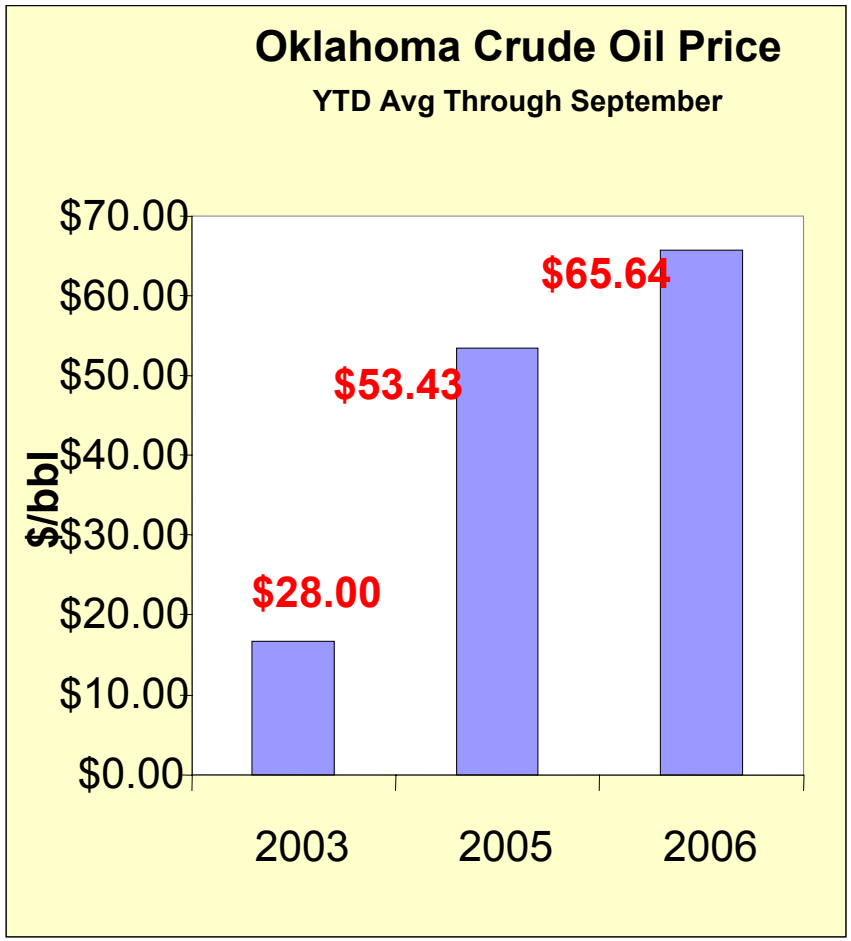
	% Change 9/05-9/06	% Change 9/95 – 9/06
Oil Prod. Volumes (000's bbls/Year)	-0.6%	-30.9%
Oil Prod. Value ($000's/Year)	22.4%	169.9%

Gas Production and Revenues in Oklahoma 1995 - Present

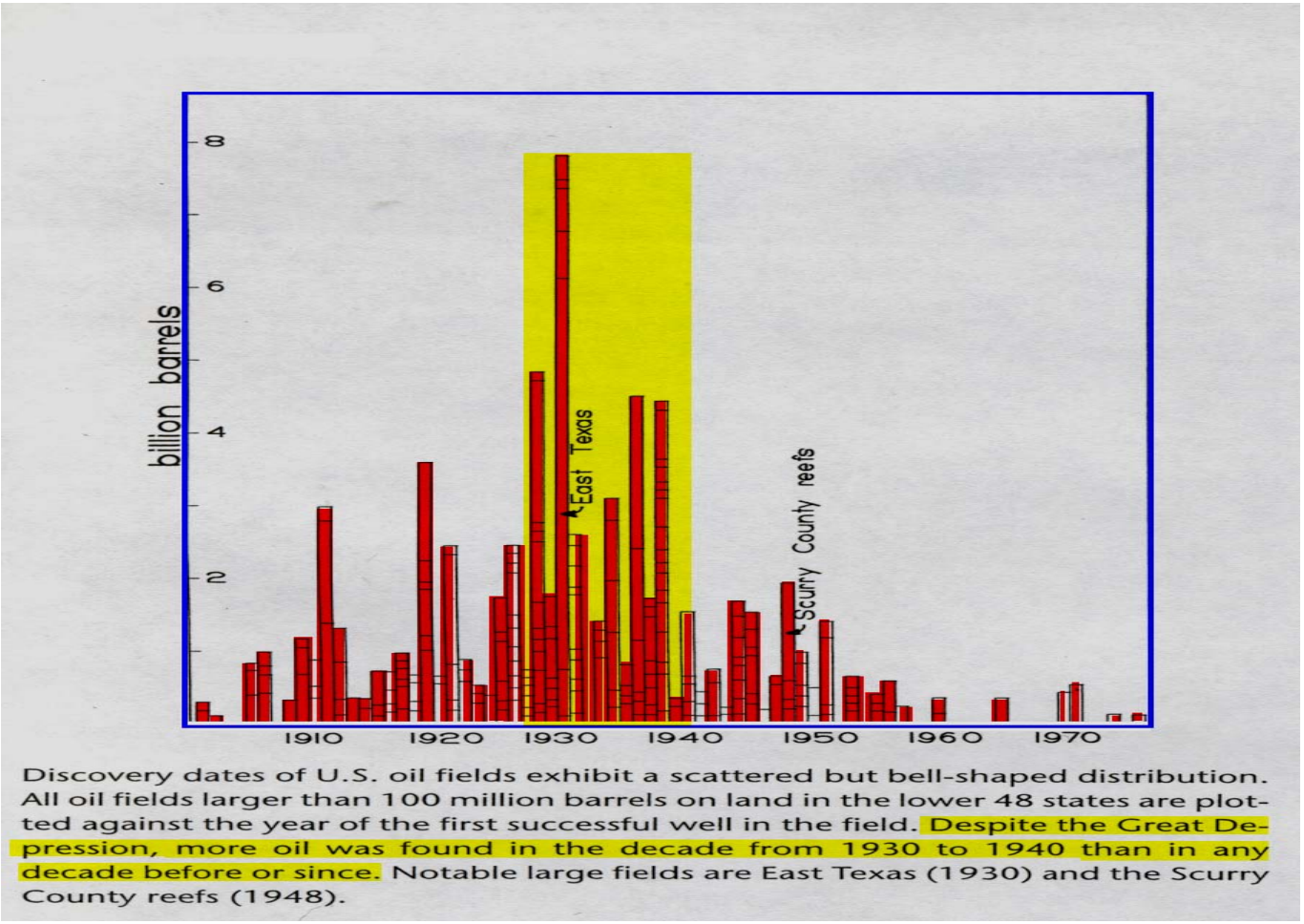
	% Change 9/05 - 9/06	% Change 9/95 - 9/06
Gas Prod. Volumes (TCF/Year)	-2.20%	-11.5%
Gas Prod. Value ($000's/Year)	.6%	327.8%

Oklahoma Wellhead Prices 1995 - 2006





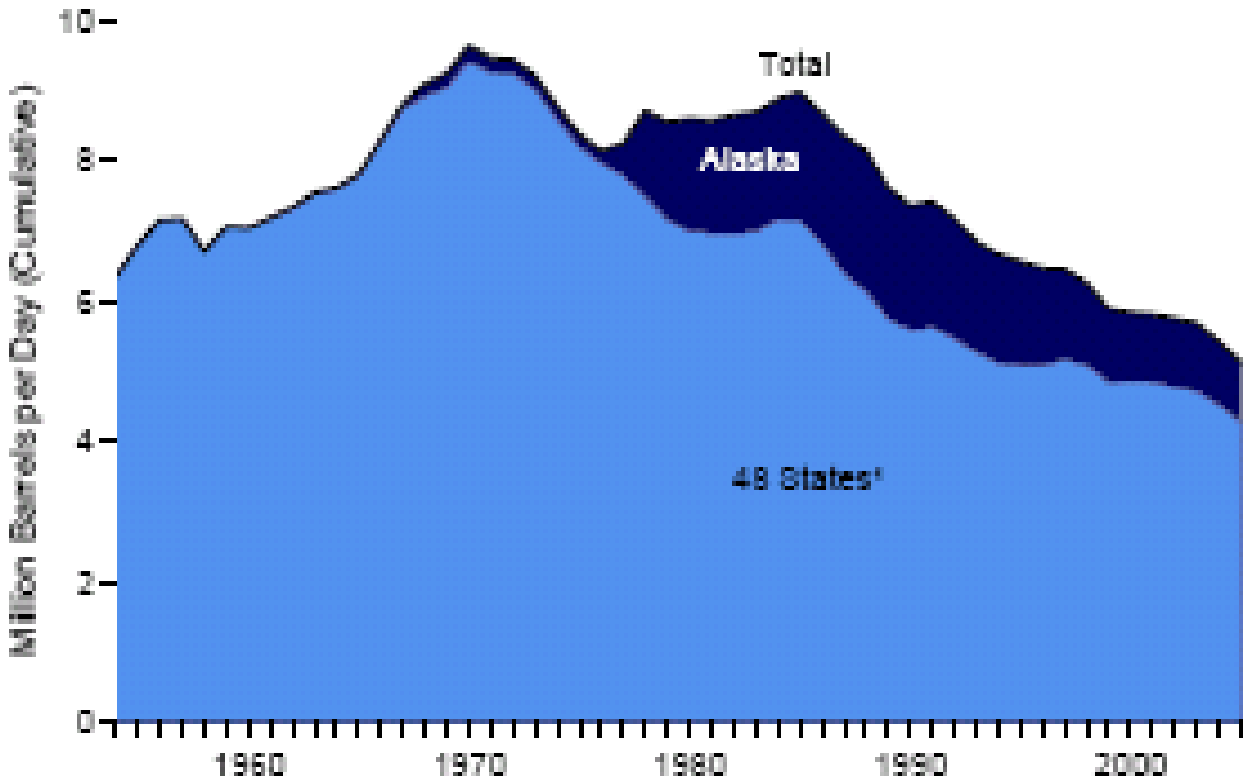
Major U.S. Oil Field Discoveries



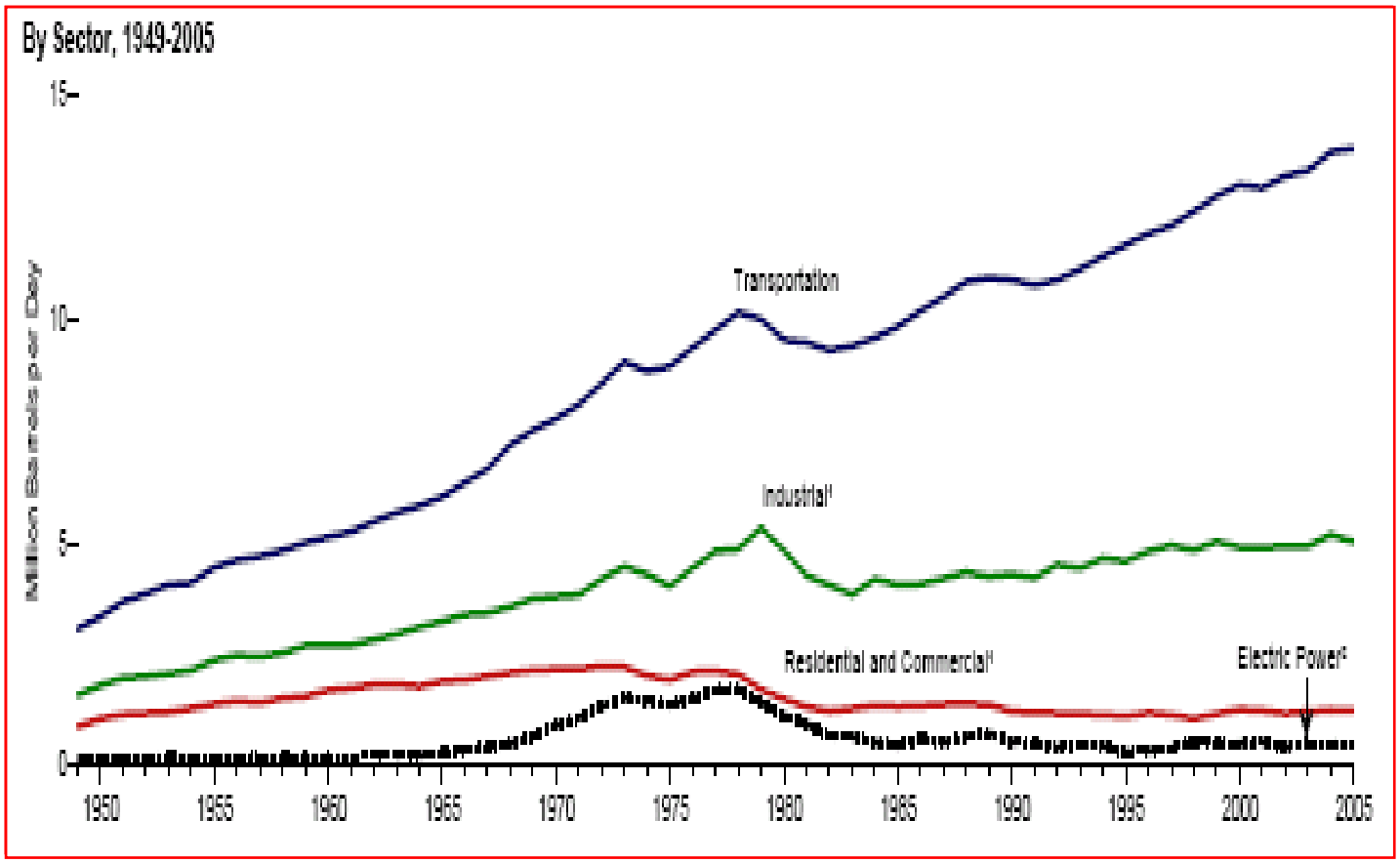
Discovery dates of U.S. oil fields exhibit a scattered but bell-shaped distribution. All oil fields larger than 100 million barrels on land in the lower 48 states are plotted against the year of the first successful well in the field. Despite the Great Depression, more oil was found in the decade from 1930 to 1940 than in any decade before or since. Notable large fields are East Texas (1930) and the Scurry County reefs (1948).

Source: “Hubbert’s Peak,” Deffeyes

U.S. Oil Production 1950 - 2005

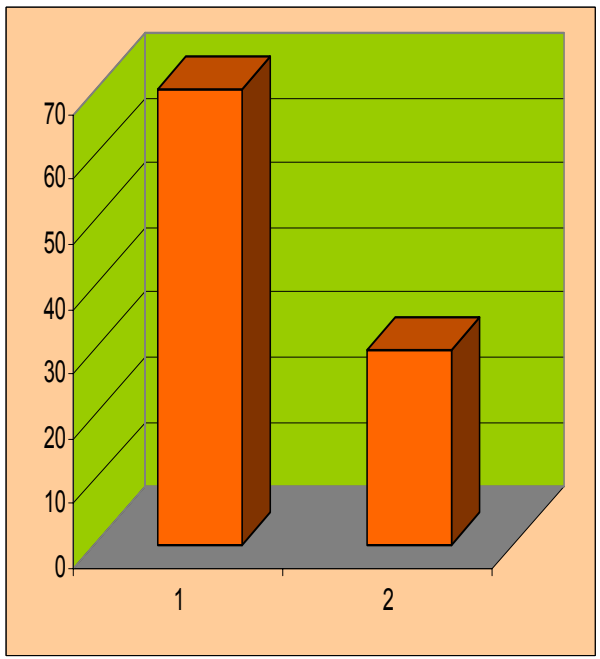


U.S. Crude Consumption Trends



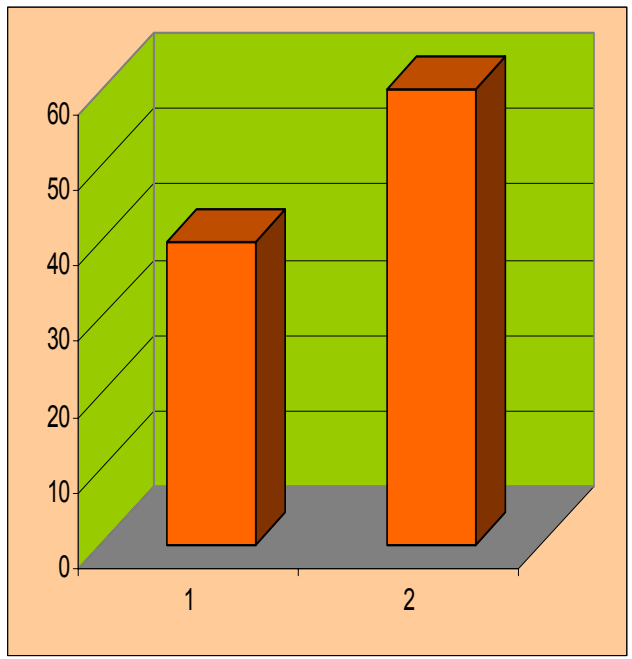
Annual U.S. Oil Supply
Domestic vs. Imported Sources

Domestic Imports



1970
(70%/30%)

Domestic Imports



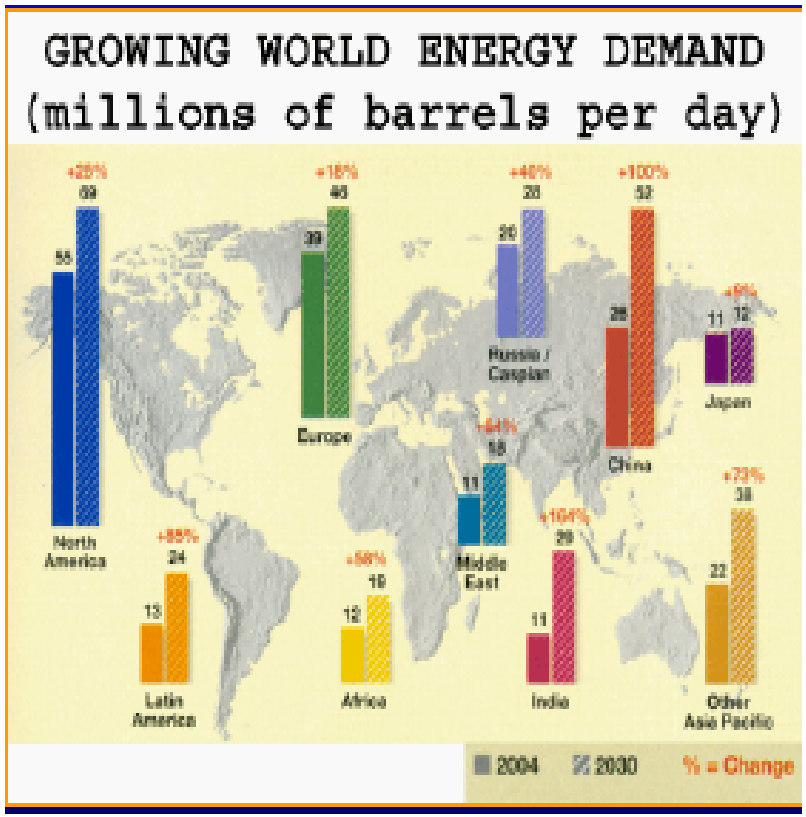
2006
(40%/60%)

Annual Expenditure for Imported Oil, 2006

$ 320± Billion*

* $988 Million/ Day or $41 Million/Hour

Growth in Global Energy Demand



Global demand grew by ≈15 million barrels per day in past decade:

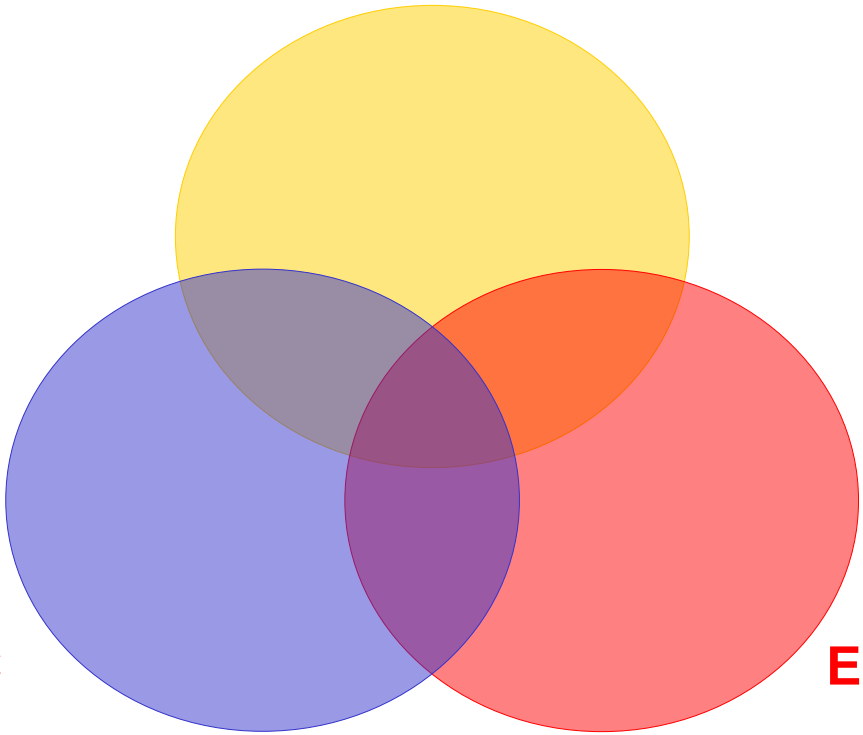
- U.S.A.
- China
- India
- Middle East
- Etc.

Hard to find countries in which demand did not grow.

CHINA AND INDIA

- China - Current Population 1.3 billion
- India - Current Population 1.2 billion
- Estimated combined average economic growth - 5.9 percent per year from 2001 to 2025
- 30,000 new autos in Beijing every month

NATIONAL SECURITY



ECONOMIC SECURITY

ENVIRONMENTAL PROTECTION

Biofuels – Part of the Solution

- Reduce our dependence on unstable and often hostile governments
- Reduce our funding of international terrorists organizations
- Revitalize Rural Economies

Biofuels - Playing to America's Strength

Countries with Top Ten Oil Reserves

Country	% Total Reserves*
Saudi Arabia	22.9%
Iran	11.4%
Iraq	10.0%
UAE	8.5%
Kuwait	8.4%
Venezuela	6.8%
Russia	6.0%
Libya	3.1%
Nigeria	3.0%
U.S.	2.7%

Top Ten Potential Biomass Producers

Country	Total Acreage** (M acres)	Per Capita (acres)
U.S.	1018	3.5
China	1369	1.1
Australia	1105	56.5
Brazil	651	3.7
Russia	535	3.7
Argentina	437	11.5
South Africa	246	5.6
Mexico	265	2.6
Ukraine	102	2.1
Turkey	103	1.5

Biofuels – Revitalizing Rural Economies

If the U.S. were to reduce oil imports and oil byproducts by 20% and replace that with homegrown biofuels:

In the course of one year – assuming an average oil price of $50 per barrel – farm communities and other biofuel players would reap **$50 billion** that would have gone to foreign oil producers.

Business Week, Nov. 13, 2006

Federal Policies Promoting Biofuels

Renewable Fuels Standard

Increased from 7.5 Billion gallons
in 2012 to 35 billion gallons in 2017

DOE and USDA Research $$$

$22 Billion over 5 years

Presidential Support for Biofuels

Keeping America competitive requires ***affordable energy.*** *And here we have a serious problem: America is* ***addicted to oil,*** *which is often imported from unstable parts of the world.*

The best way to break this addiction is through ***technology….*** *and we are* ***on the threshold of incredible advances****…*

*So tonight I announce…push for breakthroughs in two vital areas…****change how we power our homes and offices****,…****change how we power our automobiles****.*

Big Oil Backs Biofuels

"…biofuels will fill an important role in diversifying the nation's energy sources by providing a source of low-carbon transportation fuel"

Don Paul, vice president and chief technology officer, Chevron Corporation.

Big Oil Backing

"Cellulosic ethanol, as opposed to sugar- or starch-based ethanol, broadens the choice of feedstock without impacting food supplies.“

Rick Zalesky, vice president of Biofuels and Hydrogen, Chevron Technology Ventures.

ConocoPhillips

- Partnership with Iowa State University
- $22.5 million over eight years for research to develop biofuels

ExxonMobil

- Stanford: $225-million over 10 years from the ExxonMobil and two other sponsors for a variety of research on renewable research, including biofuels.

British Petroleum

- UC Berkeley: plans to give $500-million over 10 years to a consortium led by the University of California at Berkeley.

ChevronTexaco

- UC-Davis: $25 million over five years
- Georgia Tech: $12 million over five years
- Funding research into alternative fuels
- Texas A&M: strategic research agreement to accelerate the production and conversion of crops for manufacturing ethanol and other biofuels from cellulose.
- $4.5 billion spent 2002-2009

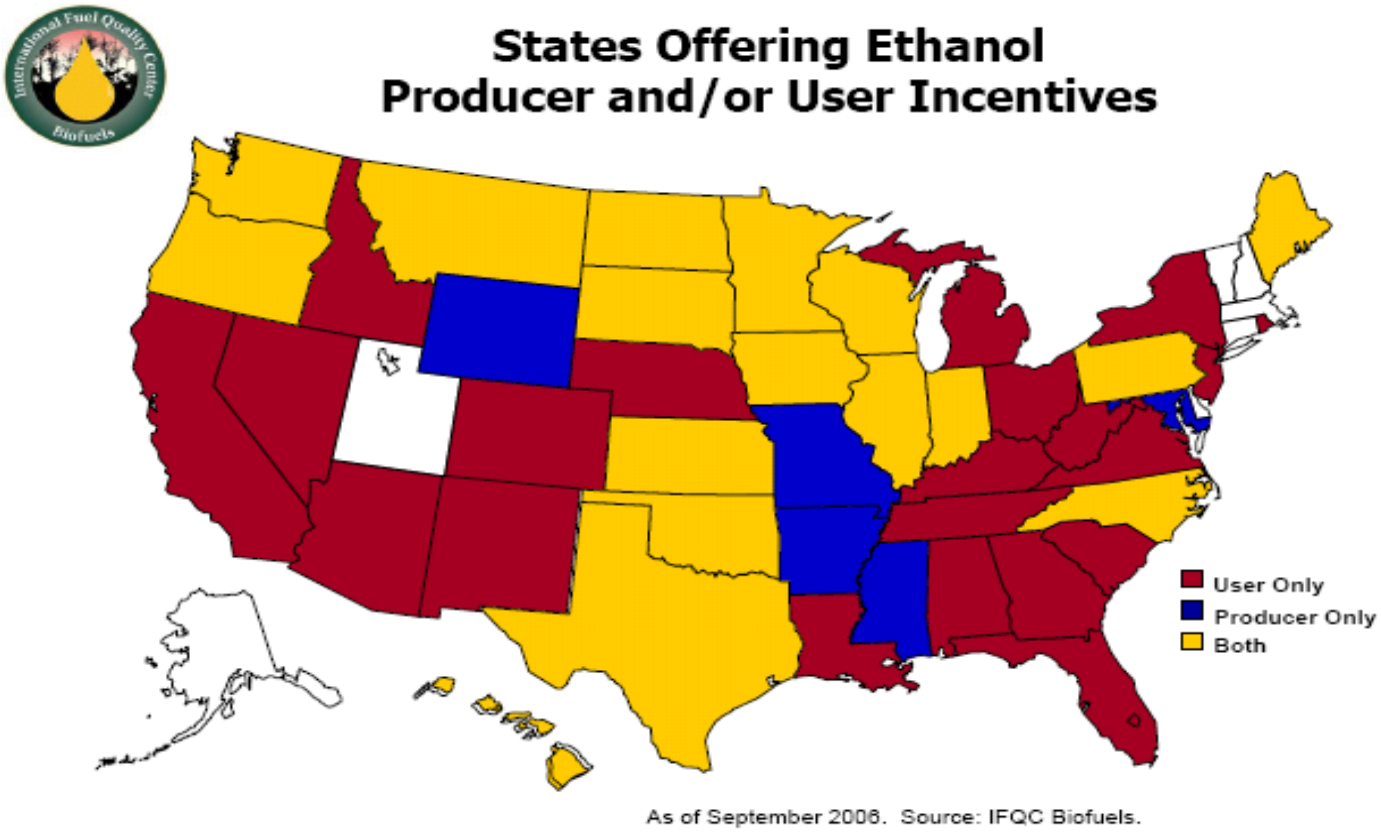
Oklahoma Biofuels Incentives

- Biodiesel/Ethanol Production Tax Credits
  - Oklahoma Income Tax Credit of Twenty Cents ($0.20) per gallon of biofuel produced.
- Oklahoma Agricultural Producer Credit
  - Oklahoma Income Tax Credit of 30% of investment in Oklahoma producer-owned facility
- Exclusion from Oklahoma Taxable Income
  - Owner of new or expanded agricultural commodity processing facility may exclude 15% of investment from their Oklahoma Taxable Income

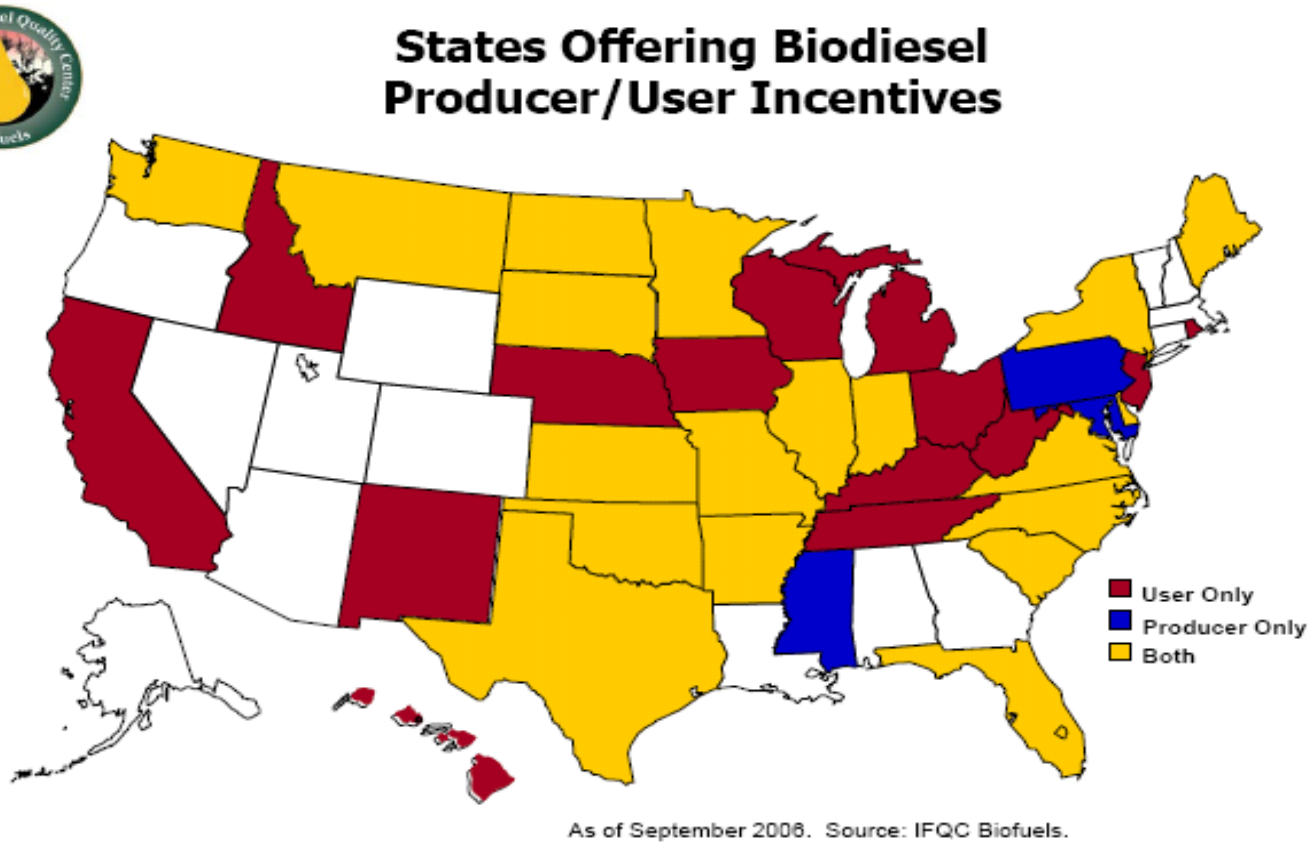
Oklahoma Biofuels Initiatives Part II

- Tax Incentives on Former Indian Reservation Lands
- Grants exceeding $500,000.00 awarded to State Universities for Biofuels Research and Development
- Green the State's Fleet Initiative
  - Initiative to convert 100% of Oklahoma State Governments (700 vehicles) fleets to alternative fuel vehicles

State Policy Supports Biofuels I



State Policy Supports Biofuels II



OKLAHOMA BIOENERGY CENTER

Status: Senate Bill 609 Signed by the Governor

Purpose: The conduct of research and the delivery of practical outcomes to:

- Enable the competitive and sustainable production of liquid biofuels in Oklahoma, and
- Contribute to the national research effort to enable the United States to achieve prescribed levels of petroleum independence.

Proposed budget: $10 million/year for 4 years.

Oklahoma Bioenergy Center

Why Oklahoma?

- Oklahoma's heritage industries: agriculture and energy production
- Abundant natural resources
- Existing, world-renown research programs at participating institutions

THE SAMUEL ROBERTS NOBLE FOUNDATION

Oklahoma Bioenergy Center

Potential Benefits

- Diversification of Oklahoma's economy
- Revitalization of rural Oklahoma
- Expansion of federal funded research
- Creation of a new, broad industry
  - New jobs
  - An internationally recognized research center
  - New opportunities to retain Oklahoma's youth in Oklahoma

THE SAMUEL ROBERTS NOBLE FOUNDATION

Oklahoma Bioenergy Center

Potential Benefits

- Focuses on Oklahoma
  - Developing crops and crop systems for Oklahoma
  - Educating our agricultural producers
  - Establishing an industry in Oklahoma
- Improves opportunities for federal funding
- Improves opportunities for partnering with industry

THE SAMUEL ROBERTS NOBLE FOUNDATION

Grow: Oklahoma Biofuels Conference

- October 16th and 17th, 2007 at the downtown OKC Sheraton
- Learn the latest news and developments in the biofuels industry
- Feedstocks for Oklahoma, D.C. update, water issues, harvest and transport, carbon trading, etc.

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