



NATIONAL
OCEAN
INDUSTRIES
ASSOCIATION

ENERGY CHALLENGES FOR TEXAS AND THE NATION

NOIA'S MISSION IS TO SECURE RELIABLE ACCESS TO THE NATION'S VALUABLE OFFSHORE ENERGY RESOURCES IN ORDER THAT THEY MAY BE DEVELOPED, PRODUCED AND SUPPLIED IN AN ENVIRONMENTALLY RESPONSIBLE MANNER.

Today, energy prices are on the rise across the nation. This affects individual citizens, industrial consumers, and the agricultural industry. But why is this so?

It all comes back to supply and demand. As the economy has grown, the demand for energy has grown every year. At the same time, however, policymakers have refused to make any changes to increase available supplies of energy. For example, over 80% of the nation's oil and natural gas resources on the Outer Continental Shelf is completely off-limits to exploration and production, despite a decades-long record of safe offshore production in the Central and Western Gulf of Mexico.

What can be done? Energy consuming states must make themselves heard and push for changes to policies like this that limit energy supply. This is key to long-term strategies to control prices and maintain economic growth and employment at home.



Less than 19% of OCS is Open to Development



ENERGY PRICES: A NATIONAL PERSPECTIVE

- In the last 25 years, our energy consumption has grown by 30 percent, while supply only increased at half that rate. In just the past decade, as our economy grew, energy consumption increased by more than 12 percent. But our domestic production increased by less than one-half of 1 percent.
- Between now and 2030 – less than 25 years from now – we will need 55 percent more electricity than we generate today and consumption of all sources of energy are expected to increase:
 - o *Petroleum by 41 percent*
 - o *Natural gas by 33 percent*
 - o *Coal by 41 percent*
 - o *Renewable energy by 39 percent*
- In 2006, consumers may pay as much as 48 percent more for natural gas than last year and at least 31 percent more for home heating oil.
- The price of U.S. natural gas has hit peaks recently of about \$15/million btu's, the rough equivalent of paying \$7 a gallon for gasoline.
 - o *This is more than double what they pay in China, and 50 percent higher than prices in the United Kingdom. The U.S. price is 20 times what Saudi Arabians pay.*
- High energy prices, particularly for natural gas, have cost the economy 2.8 million jobs since 2000.
- More than 100,000 lost jobs in the chemical industry, and the closure of 70 chemical facilities in 2004 alone, have resulted from high prices of natural gas.
- During the 2003 and 2004 growing seasons, farmers paid more than \$6 billion in added energy-related expenses, a 41% increase over 2004, according to USDA's Economic Research Service.

TEXAS ENERGY CONSUMPTION:

- Texas spends over \$95 billion each year on energy, ranking 1st nationally in total energy consumption. This demand is forecast to grow 31% by 2025.
- Due to its large population and energy-intensive economy, Texas accounts for more than one-tenth of total U.S. energy consumption.
- In 2004, Texas' energy consumption by sector was: 53% industrial, 23% transportation, 13% residential, and 11% commercial.
- Between 1980 and 2001, Texas' electricity consumption increased by 135 billion kilowatt-hours, an average annual increase of 2.7%.
- Natural gas fuels 45% of Texas' electricity generation, followed by coal (41%), nuclear (12%), petroleum (1%), and other sources (1%).
- Texas consumes more natural gas than any other state and accounts for about one-fifth of total U.S. natural gas consumption.
- Texas' total petroleum consumption is the highest in the Nation, using more asphalt, road oil, distillate fuel oil, jet fuel, liquefied petroleum gases, and lubricants than any other state.

TEXAS ENERGY RESOURCES AND PRODUCTION:

- Texas has substantial energy resources, leading the Nation in both crude oil production and refining capacity.
- Texas' first major oil boom began in 1901 at Spindletop, with a discovery in what is now known as the Upper Gulf Coast Basin. The State's signature crude oil type, known as West Texas Intermediate (WTI), remains the major benchmark of crude oil in the Americas.
- Currently, the State has more than 200,000 oil and gas wells producing 350 million barrels of oil and 6 trillion cubic feet of natural gas annually.
- Texas has an estimated 5 billion barrels of proved oil reserves found throughout the State, but the largest concentrations are in the Permian Basin of west Texas, which includes more than 20 of the Nation's top 100 oil fields.
- Texas is also the Nation's leading natural gas producer, accounting for more than one-fourth of total U.S. natural gas production
- Although the State produces a substantial amount of coal from 13 surface mines, including 5 of the 50 largest in the U.S., Texas relies on rail deliveries from Wyoming for the majority of its supply.
- Texas leads the U.S. in oil refining capacity, with 25 petroleum refineries processing approximately 4.5 million barrels of crude oil per day, accounting for more than one-fourth of the Nation's output.
- Nuclear power generation plays a major role in Texas, with its two reactors accounting for about one-tenth of the State's electric power production.



TEXAS ALTERNATIVE / RENEWABLE ENERGY:

- Texas leads the Nation in non-hydropower renewable energy potential, including wind, solar, and biomass resources.
- Texas is the largest producer of wind power in the United States, with about 1,600 wind farms installed in west Texas alone. The State also boasts of the largest wind power facility in the world, with the Horse Hollow Wind Energy Center in central Texas generating 736 megawatts.
- Texas' solar power potential ranks among some of the highest in the country, with high levels of direct solar radiation concentrated in west Texas.
- Due to its large agricultural and forestry sectors, the State has an abundance of biomass energy resources.

INCREASING ENERGY PRICES HURT MANUFACTURING INDUSTRIES, IMPERILING TEXAS JOBS:



- Texas' manufacturing sector is one of the State's largest industries.
- As of November 2006, Texas was home to more than 900,000 manufacturing jobs, paying employees an average of \$54,400 per year, 33% higher than the average for the State. Rising energy costs, however, have contributed to the loss of more than 150,000 of these high-wage manufacturing jobs since 2000.
- Chemical, plastic and rubber manufacturing – which depend on natural gas as a critical input – accounted for more than \$27 billion in Texas' exports and directly supported more than 70,000 jobs in 2005. These jobs, however, are in jeopardy due to the high price of natural gas.
- Four years ago, Dow was going to build a \$4 billion chemical plant in Freeport, Texas which would have employed 1,000 people in high paying research and development, engineering, and operations jobs. Today, that plant is being built in Oman, because of the high cost of natural gas in the U.S. (almost 12 times higher than on the Arabian Peninsula).
- Texas has more than 18 million acres of forested land, and its forest products industry employs approximately 25,000 workers with an annual payroll exceeding \$1 billion.
- Today, energy is the third largest manufacturing cost, at 18%, for the forest products industry, eclipsing even employee compensation.
- Nationally, more than 230 forest products mills have closed, and 180,000 jobs – 12% of the industry's national employment – have been lost since 2000, when energy prices started to rise. Likewise, many of Texas' paper and wood manufacturing jobs are endangered by the high price of natural gas.



INCREASING ENERGY PRICES SQUEEZE THE STATE'S UNIVERSITIES AND INDIVIDUAL CONSUMERS:

- The State of Texas spent nearly \$300 million on energy and utilities for state-owned facilities in 2005.
- Texas A&M University produces about one-third of the electricity for their campus and purchases the remainder from the marketplace. In recent years, the cost of those purchased utilities (natural gas and electricity) has steadily increased, from approximately \$15 million throughout the 1990's to \$30 million by F.Y. 2003-2004 and \$60 million by F.Y. 2006-2007.
- Home heating costs have risen significantly, regardless of the energy source used. Electricity is used for heating purposes in 49% of Texas homes, followed by natural gas (43%), liquefied petroleum gas (6%), and other sources (2%).
- In 2006, Congress and the State provided home heating assistance to 29,000 households and cooling assistance to 66,000 households in Texas, a 48.5% increase from 2005.



INCREASING ENERGY PRICES SQUEEZE FARMERS AND AGRICULTURAL INDUSTRIES:

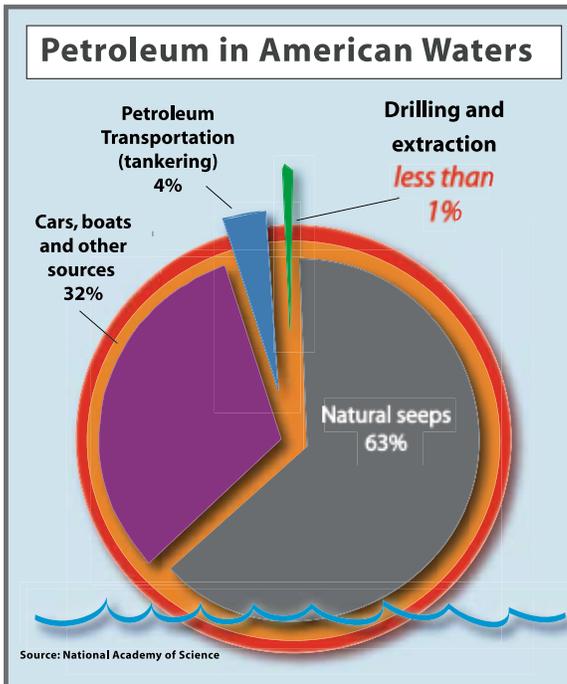
- Texas is home to more than 230,000 farms (first in the U.S.), covering nearly 130 million acres of land (first in the U.S.), and generating more than \$16 billion in farm receipts in 2005 (7% of the U.S. total).
- Texas currently leads the Nation in the number of cattle, sheep, goats, and horses, and in the production of cotton and wool.
- Agricultural production uses energy directly in grain production, drying, and marketing, and indirectly through many of the purchased inputs, such as fertilizer and agricultural chemicals. Many of the manufacturing industries, including agricultural processing, are also intensive energy users.
- Increasing energy costs – in the form of higher prices for transportation, electricity, and related costs in the feed and ingredient processing industries – have resulted in dramatic changes in the feed and cattle industries. For example, corn, the most popular feed grain, requires large amounts of fertilizer and irrigation water, both of which are sensitive to energy costs.
- The Economic Research Service of the United States Department of Agriculture estimates that principal crop related expenses in 2007 – seeds, fertilizers, and pesticides – are forecast to be \$36.1 billion, up 5% from 2006. This is the fourth straight increase of \$1.8 billion or more.
- A 2006 study conducted by Texas A&M University showed most cotton and rice operations in the United States will experience negative cash flows over the next 5 years due to the high price of energy.



A PLAN OF ACTION:

What can be done to increase energy supplies?

- Call on Congress and the Administration to cultivate a plentiful, diverse and affordable energy supply for America.
- Pursue renewable technologies such as offshore wind and tidal power and the development of offshore methane hydrates.
- Promote energy conservation and greater efficiency.
- Increase refining capacity and import facilities.
- Provide access to the Outer Continental Shelf (OCS) for exploration and development of the nation's valuable offshore energy resources in an environmentally responsible manner. Over 80 percent of all federally controlled coastal waters are currently off-limits to energy exploration and production, yet the OCS is conservatively estimated to hold over 419 trillion cubic feet of technically recoverable natural gas resources and 86 billion barrels of oil. This is enough:
 - natural gas to heat 100 million homes for 60 years.
 - oil to drive 85 million cars for 35 years.
 - oil to replace current Persian Gulf imports for 59 years.



Offshore drilling is safe: Less than 1% of oil found in the ocean comes from offshore production, significantly less than results from natural geologic seeps and run-off from land-based sources