



NATIONAL
OCEAN
INDUSTRIES
ASSOCIATION

ENERGY CHALLENGES FOR KENTUCKY 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 – just 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*
- The Energy Information Administration predicted on Jan. 11 that the average U.S. home heating bill in 2006 will increase by \$257, or 35 percent, for natural-gas heat; \$275, or 23 percent, for oil heat; and \$184, or 17 percent, for propane heat.
- 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.



KENTUCKY ENERGY CONSUMPTION AND ITS ECONOMIC IMPACT:

- Kentucky ranks 20th nationally in total energy consumption, consuming 1.879 quadrillion British thermal units. In 2001, Kentucky ranked 24th in the nation for residential consumption, 25th for commercial, 11th for industrial, and 21st for transportation.
- 90 percent of Kentucky's electricity is produced from coal-fired generation.
- According to the U.S. Department of Energy, Kentucky ranked third in the United States - behind Wyoming and West Virginia - in coal production in 2002, providing 11.3 percent of the nation's aggregate production. Kentucky produced 131.4 million tons of bituminous coal in 2002. Estimates indicate that there are 35.8 billion tons of remaining coal reserves in Western Kentucky and 52.3 billion tons in Eastern Kentucky.
- In 2002, Kentucky residents enjoyed the lowest cost residential electricity rates in the country.
- Kentucky has 1.9 billion cubic feet of proven natural gas reserves – or about one percent of the nation's proven reserves. In 2002, Kentucky produced over 86 million cubic feet of natural gas.
- The Kentucky Geological Survey estimates that Kentucky has 848 billion cubic feet of coal bed methane – a methane gas generated during coal formation... contained in the coal microstructure. Additional research is needed to tap this promising source of energy.
- In 2003, 2 million gallons of biodiesel were produced in Kentucky, with 300,000 gallons consumed in-state. Also in 2003, Kentucky produced 24 million gallons of ethanol and consumed 12 million gallons in-state.

(Data is drawn from the "2004 Opportunities for Our Energy – Kentucky's Energy")

INCREASING ENERGY PRICES HURT MANUFACTURING INDUSTRIES, IMPERILING KENTUCKY JOBS:

- According to the U.S. Bureau of Economic Analysis, in 2001 – the most recent data available – 25 percent of Kentucky's economic output came from the manufacturing sector. Large industrial sectors in Kentucky include: the automotive industry, employing over 53,000; aluminum industry with over 15,000 employees; and the plastics industry, employing more than 15,000.
- The average monthly industrial electric bill in Kentucky is 123 percent higher than the national average.
- As of April 2006, Kentucky was home to more than 260,800 manufacturing jobs, paying employees an average of \$43,240/year, 31% higher than the average wage and salary for the state. Unfortunately, rising energy costs have contributed to the loss of more than 60,000 of these high-wage manufacturing jobs since 2000.



- Chemical, plastics and rubber manufacturing – which depend on natural gas as a critical input – accounted for more than \$2.81 billion in Kentucky exports in 2005 and supported more than 15,500 jobs directly. These jobs are also in jeopardy due to the high price of natural gas.
- Approximately 47 percent of Kentucky is forested, accounting for 11.9 million acres of state’s land area. Kentucky’s forest products industry is one of the state’s top manufacturing industries, employing more than 31,000 workers with an annual payroll over \$966 million. Kentucky’s paper and wood manufacturing workforce represents 8 percent of the state’s total manufacturing workforce, but these jobs are also in jeopardy due to the high price of natural gas. Nationally, more than 232 mills have closed and 182,000 jobs have been lost (12 percent of the industry’s national employment) since 2000 when energy prices started to rise.
- Today, energy is the third largest manufacturing cost for the forest products industry (18 percent for pulp and paper mills), growing quickly enough to eclipse employee compensation.



INCREASING ENERGY PRICES SQUEEZE SMALL BUSINESSES AND INDIVIDUAL CONSUMERS:

- Kentucky’s state utility expenditures, including universities, K-12 schools and the judicial branch, totaled \$206 million in 2003. That same year, utility costs for state agencies were 12 percent higher than in the previous year. In 2004, state agencies used about 4 percent more energy than they did the same time the year before-with a cost increase of about \$1.7 million.
- On an average monthly electric bill, Kentucky’s schools spend 7 percent more per student than the national average.
- The Small Business Administration estimates there were more than 317,000 small businesses in Kentucky in 2005. According to the June 2006 National City Corporation’s Small Business Confidence Index, the confidence of Kentucky small business owners declined from may to June due to high energy prices and the Federal Reserve rate hike. The composite index, which includes economic outlook and hiring plans, dropped to 72.8 percent in June from 77.1 percent in May.
- Kentucky’s residential customers consume 28 percent more electricity than the national average.
- Residential energy consumption in Kentucky increased from 135.5 trillion BTUs in 1960 to 305.5 trillion BTUs in 2000.
- 44 percent of Kentucky’s home-heating is fueled by natural gas. Prices during the winter of 2003-2004 were 20 to 40 percent higher than during the previous heating season. Recent projections expect the trend to continue.





- Almost half of Kentuckians' energy bills go to home heating, bills that are only getting bigger. The average energy bill for Kentucky homes heated with natural gas will increase by about \$225 in 2006. Homes heated with heating oil will go up by about \$115. Propane-heated home owners will see their bills rise by about \$135, while electric heating costs will rise by about \$35.
- In 2005, an estimated 112,000 households throughout Kentucky received more than \$28 million in Low Income Home Energy Assistance (LIHEAP) funding to help pay their heating and cooling bills.
- Kentucky gasoline prices are currently about 35 percent higher than one year ago. At today's prices, Kentucky households pay about \$3,200 annually for gasoline.



INCREASING ENERGY PRICES SQUEEZE FARMERS AND AGRICULTURAL INDUSTRIES:

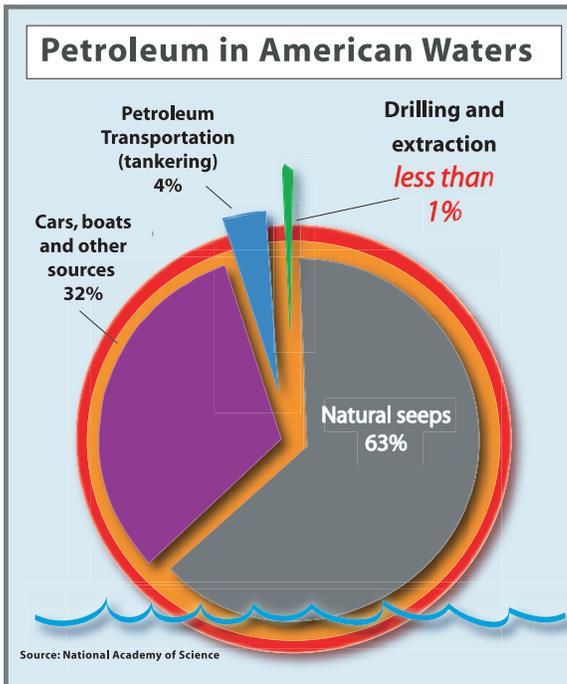
- Kentucky is home to more than 84,000 farms, covering more than 13.8 million acres of farmland.
- According to the Kentucky Farm Bureau, electric rates are a major concern for their members, many of whom are farmers who use more electricity than the average household. In Kentucky, energy costs account for 5.2 percent of the average dairy farms operating costs. Throughout the Southeast and the nation, many dairy farmers have been impacted by high energy costs with increases in feed stock, motors, lighting, and transportation costs.
- Kentucky ranks 8th nationally in beef cow operations. Increasing energy costs – in the form of higher prices for transportation, electricity and related costs in the feed and ingredient processing industries – result in dramatic changes in the feed and cattle industries. Furthermore, corn, the most popular feed grain, requires large amounts of nitrogen fertilizer and irrigation water which is both sensitive to energy costs.
- In 2004, Kentucky ranked 3rd nationally in all other hay production (excluding alfalfa), and 13th nationally in corn production for grain.
- In 2004, Kentucky farmers purchased more than 947,900 tons of fertilizer.
- According to the University of Missouri, corn growers will spend an additional \$13 to \$21 an acre on fuel and fertilizer cost in 2006. Last year, energy costs for growing corn were up \$22 to \$35 an acre.
- According to the Food and Agriculture Policy Research Institute, fertilizer costs are up 70 percent and fuel costs are up 113 percent since 2002. From 2005 to 2006, these prices are expected to rise another 10 percent to 15 percent.



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