



NATIONAL
OCEAN
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ASSOCIATION

ENERGY CHALLENGES FOR MISSOURI 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.



MISSOURI ENERGY CONSUMPTION AND THE IMPACT OF ENERGY ON THE ECONOMY:

- Missourians spend about \$13 billion a year for all forms of energy, importing 95 percent of their energy in the form of coal, petroleum, and natural gas.
- At current rates of increase, Missouri will have to more than triple its imports of fossil fuels by mid-century to meet demand.
- In 2001, Missouri ranked 20th in total energy consumption in the U.S. using a total of 1.8 quadrillion Btu of energy.
- Between 1991 and 2000, Missouri's population grew by 8 percent while energy demand increased by nearly 11 percent. In 2001, Missouri ranked 15th in the nation for residential consumption, 14th for commercial, 28th for industrial, and 17th for transportation.
- From 1990 to 2000, expenditures for fossil fuels increased 46 percent from \$6.6 billion to \$9.7 billion. During that same period, coal use increased 2.5 percent annually, followed by natural gas at 1.8 percent/year and petroleum at 1.2 percent/year.
- Missouri's electricity is produced predominantly by coal (82 percent) and nuclear power (13 percent). Four percent comes from natural gas. The remaining one percent comes from hydroelectric power, wood, fuel oil and other minor sources. Missouri ranks as the nation's 20th largest consumer of electricity per capita.
- Residential customers account for more than 40 percent of Missouri's electricity consumption, followed by commercial users at 37 percent, industrial needs at 22 percent and the remaining balance for streetlights and other applications at 1 percent.
- Approximately 60 percent of Missouri households use natural gas to heat their homes. Natural gas is also used to produce goods and generate electricity. During 2003, Missourians spent about \$2.2 billion and used approximately 263 billion cubic feet of natural gas.
- Electric utilities are now using more natural gas to produce electricity. Missouri's electric utilities used about 7 billion cubic feet of natural gas in 1997, 16 billion in 1998, 19 billion in 1999 and 22 billion in 2000 – an increase of 31 percent.
- The U.S. Census Report for 2000 reveals that approximately 12 percent of Missouri households heat with propane. Propane also is used to support commercial operations, produce goods, dry grain harvests and fuel vehicles. The residential sector consumed the largest share at nearly 55 percent, followed by industry (which includes agriculture) at approximately 34 percent.
- Consumption of petroleum-based products in Missouri – about 15 million gallons per day – accounts for 38.6 percent of all primary energy consumed in Missouri and costs \$7.1 billion every year.
- Missouri has 3 ethanol plants in operation and another five in the construction and planning stages.

(Data is drawn from the "2003 Governor's Energy Policy Council Report")

INCREASING ENERGY PRICES HURT MANUFACTURING INDUSTRIES, IMPERILING MISSOURI JOBS:



- As of April 2006, Missouri was home to more than 304,500 manufacturing jobs, paying employees an average of \$42,600/year, 21% 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 manufacturing – which depends on natural gas as a critical input – accounted for more than \$1.96 billion in Missouri exports in 2005 and support more than 18,300 jobs directly. These jobs are also in jeopardy due to the high price of natural gas.
- Approximately 32% of Missouri is forested, accounting for 14 million acres of state's land area. Missouri's forest products industry is one of the state's top manufacturing industries, employing 31,000 workers with an annual payroll over \$936 million. Missouri's paper and wood manufacturing workforce represents more than 6.3 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% 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% for pulp and paper mills), growing quickly enough to eclipse employee compensation.



INCREASING ENERGY PRICES SQUEEZE SMALL BUSINESSES AND INDIVIDUAL CONSUMERS:

- Missouri state agencies, including universities, spend about \$78 million for energy use in state facilities.
- The Small Business Administration estimates there were more than 460,000 small businesses in Missouri in 2005, who indicated in a November 2005 survey by the Missouri chapter of the National Federation of Independent Business that they are cautious about the future due to increased energy costs. When asked what small businesses did to offset spikes in energy costs, 49 percent indicated they either reduced energy use or absorbed costs with lower earnings. 12 percent of small business owners raised prices.
- Half of Missourians' energy bills go to home heating, bills that are only getting bigger. The average energy bill for Missouri homes heated with natural gas will increase by about \$345 in 2006. Homes heated with heating oil will go up by about \$165. Propane-heated home owners will see their bills rise by about \$200, while electric heating costs will rise by about \$50.
- In 2005, an estimated 113,000 households throughout Missouri received more than \$48 million in Low Income Home Energy Assistance (LIHEAP) funding to help pay

their heating and cooling bills. First time applications in 2006 for LIHEAP increased 20 percent in St. Louis and 32 percent in Kansas City.

- Missouri gasoline prices are currently about 35 percent higher than one year ago. At today's prices, Missouri households pay about \$3,150 annually for gasoline.



INCREASING ENERGY PRICES SQUEEZE FARMERS AND AGRICULTURAL INDUSTRIES:

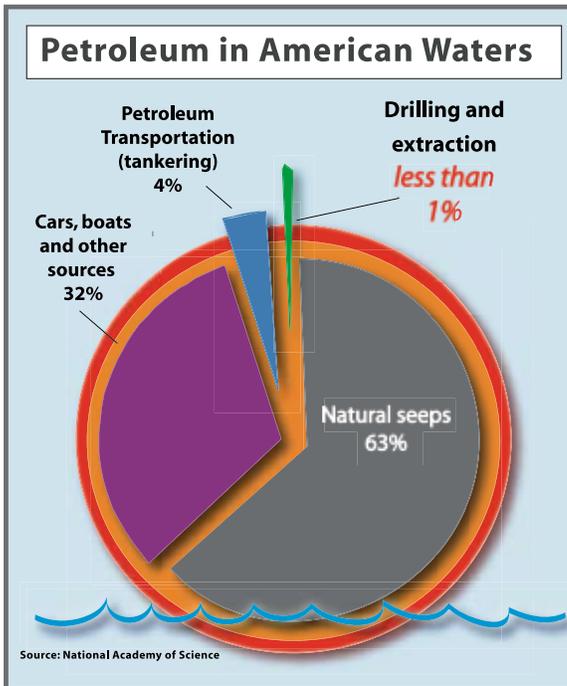
- Missouri is home to more than 105,000 farms, covering more than 30 million acres of farmland. According to the Food and Agricultural Policy Research Institute at the University of Missouri, in 2004, Missouri farm income was expected to reach near \$2.5 billion. In 2005 and 2006, farm income is projected to be near \$1.1 to \$1.2 billion. Decreased cash receipts, increased energy driven-production costs, and declining crop inventories will lead to the lower estimate.
- Missouri ranks second nationally in both beef cow and cattle 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 are both sensitive to energy costs.
- Missouri ranks second nationally in hay production, sixth nationally in rice production and eighth nationally in corn production for grain. Missouri crop farmers rely on irrigation for much of the crops grown and the 2003 Farm and Ranch Irrigation Survey, reported that 1,962 farms across the state irrigate more than 1 million acres. The total energy expenses for pumping cost Missouri farmers more than \$9.3 million in 2003, up from \$5.6 million in 1998, a 64 percent increase.
- 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 10percent 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