



NATIONAL
OCEAN
INDUSTRIES
ASSOCIATION

ENERGY CHALLENGES FOR OHIO 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.



OHIO ENERGY OUTLOOK AND CONSUMPTION:

- Ohio is the 6th largest energy consuming state; ranks 4th in overall electricity use; and the 4th largest industrial energy consumer in the nation, according to the Energy Information Administration.
- The demand for energy in Ohio is projected to steadily grow through 2023, rising from 2002, when the demand for energy from primary fuels in Ohio was 3,667.5 Trillion British Thermal Units (TBTU) to 4,268.8 TBTU in 2023.
- Industrial sector demand for electricity was 201.6 TBTU in 2002 and is expected to reach 239.7 TBTU in 2023. The commercial sector demand for electricity was 152.1 TBTU in 2002 and is projected to be 205.8 TBTU in 2023. Residential sector demand for electricity was 172.7 TBTU in 2002 and is expected to top 207 TBTU in 2023.
- The primary sources of energy for Ohio are as follows: coal, nuclear, natural gas, hydroelectric, other renewables, and petroleum.
- Since 1999, 15 new electric generating facilities have become operational, adding 7,200 megawatts of generating capacity in Ohio. There are two facilities currently under construction that will create an additional 1,256 megawatts of generating capacity by 2008.
- Oil and natural gas has been found in 76 of Ohio's 88 counties. Currently there are 62,960 wells producing oil and gas in Ohio. The great majority of these wells are classified as "marginal wells" – a term for wells that produce less than 10 barrels of oil per day or less than 60 thousand cubic feet of gas per day.
- Ohio ranks 2nd among states in the number of marginal natural gas wells and 4th in the number of marginal oil wells.
- As of 2006, Ohio had 898 billion cubic feet of proved natural gas reserves and 46 million barrels of proved oil reserves. Ohio ranks 18th in crude oil reserves and 19th in natural gas reserves.
- Ohio is the nation's 7th largest natural gas consuming state. Ohio natural gas producers provide approximately 11 percent of Ohio's natural gas consumption. That is enough natural

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So much to Discover!





gas to heat nearly 1 million homes for the year.

- During 2001, Ohio produced 98.2 million cubic feet of natural gas, ranking Ohio 17th among 32 natural gas producing states.
- In Ohio, over 90 percent of the state’s natural gas requirements are dependant upon interstate supplies. The commercial sector natural gas demand was 164.5 TBTU in 2002. It is expected to top 215 TBTU in 2023. The industrial sector natural gas demand was 297 TBTU in 2002. It also is expected to jump to 381 TBTU in 2023.
- During 2001, Ohio produced 6.05 million barrels of crude oil. Crude represents about 30 percent of Ohio’s production. Ohio is the largest crude producer of the Appalachian states.
- In 2002, 72 percent of the total demand for petroleum products was generated by the transportation sector, and 22 percent was generated by the industrial sector. The remaining 6 percent was used by the residential, commercial, and electricity generation sectors combined. Transportation sector demand for petroleum products was 945.7 TBTU in 2002. It is expected to be 1,179 TBTU in 2023. The industrial sector demand was 293.2 TBTU in 2002 and should rise to more than 334 TBTU in 2023.
- In 2003 and 2004, Ohio’s first utility-scale wind turbines were installed in Bowling Green providing a capacity of 7.2 megawatts. The four turbines installed are the largest wind turbines east of the Rockies. Bowling Green is meeting 20 percent of its electric load with green power generation.
- Today, the Governor’s residence is equipped with a 3.2 kilowatt solar power system. Additionally, 47 schools, zoos, museums, colleges and universities are participating in Ohio Schools going solar. Under this program, two-kilowatt photovoltaic solar panels have been installed at these participating locations throughout 22 Ohio counties.
- Ohio is doubling E85 ethanol use in the state fleet from 30,000 gallons to 60,000 gallons per year by January 1, 2007. After 2007, Ohio will increase E85 usage by 5,000 gallons each year.
- Ohio is also purchasing only flex fuel vehicles can run on both regular gasoline and E85 ethanol blend as state vehicles are replaced. Ohio already has more than 1,700 flex-fuel vehicles as of 2006.

(Data is drawn from the “Ohio Longterm Forecast of energy Requirements 2003-2023” and the Energy Information Administration)



INCREASING ENERGY PRICES HURT MANUFACTURING INDUSTRIES, IMPERILING OHIO JOBS:

- Ohio's industrial sector energy consumption ranks fourth in the nation after Texas, Louisiana, and California.
- In 2000, approximately 55 percent of Ohio's jobs were directly or indirectly dependent on the manufacturing sector of the economy.
- As of September 2006, Ohio was home to more than 805,000 manufacturing jobs, paying employees an average of \$48,200/year, 30% higher than the average wage and salary for the state. Unfortunately, rising energy costs have contributed to the loss of more than 216,000 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 \$5.1 billion in Ohio exports in 2005 and supported more than 48,000 jobs directly. These jobs are also in jeopardy due to the high price of natural gas.
- Approximately 30 percent of Ohio is forested, accounting for 7.3 million acres of state's land area. Ohio's forest products industry ranks as one of the state's top manufacturing industries, employing more than 72,000 workers with an annual payroll over \$2.5 billion. Ohio's paper and wood manufacturing workforce represents 5.3 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 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 BUSINESSES, UNIVERSITIES, AND INDIVIDUAL CONSUMERS:

- In a December 2005 survey by the National Federation of Independent Business, 35% of Ohio's small businesses said energy costs are increasing more rapidly than other costs.
- About 50% of Ohioans' energy bills go to heat their homes.
- Natural gas accounts for heating 69 percent of Ohio's homes, followed by electricity-18 percent, liquid propane gas-6 percent, fuel oil 5 percent and other 2 percent.



- In 2006, the average energy bill for Ohio homes heated with natural gas increased by about \$385. Average energy bills for homes heated with oil went up about \$215. Propane-heated homes saw their bills rise by about \$225, while electric heating costs rose by about \$70.
- Ohio gasoline prices are currently 40% higher than last year, costing Ohio households \$2,700 annually.
- In 2006, Duke Energy Ohio approved an electric increase of 30.8 percent.
- In 2006, the State of Ohio provided home energy assistance to more than 345,000 households, a 13% increase from 2005.
- In 2006, increased energy costs affected Ohio school districts: to save gas, Ohio's Princeton School District cancelled most field trips, pooled athletic teams for competitions and sent a smaller band to away games.

INCREASING ENERGY PRICES SQUEEZE FARMERS AND AGRICULTURAL INDUSTRIES:

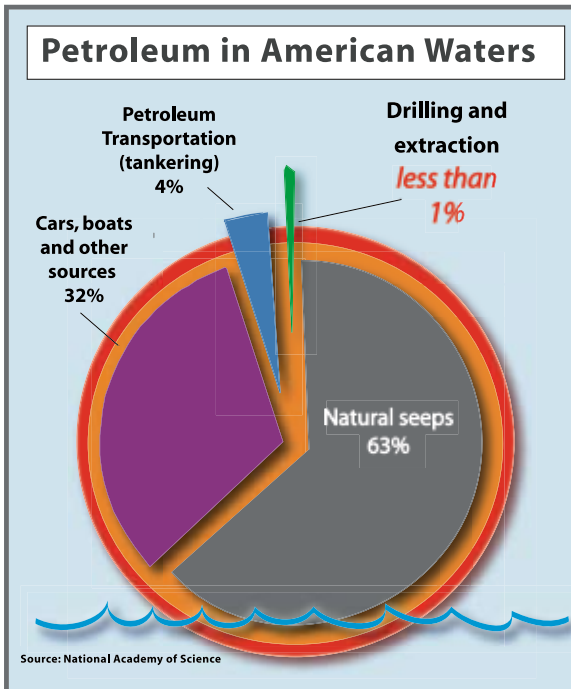
- Ohio is home to more than 76,000 farms, covering more than 14.3 million acres of land.
- Food and agriculture is Ohio's top industry. Ohio grows more than 200 crops, with corn and soybeans at the top of the list. In 2004, the total value of Ohio's crop production topped \$3.4 billion.
- Between 2003 and 2006, total costs per acre for corn increased from \$36 to \$50, soybean costs increased \$14 to \$20, and wheat costs increased \$10 to \$31. Fuel and fertilizer costs per acre between 2003 and 2006 increased from \$26 to \$37 for corn, \$10 to \$13 for soybeans, and \$15 to \$31 for wheat.
- Ohio ranked 9th nationally in winter wheat production in 2005. Because of the high price of energy, fertilizer costs have gone up by double digits, and, for the first time since the Great Depression, a gallon of diesel fuel is more expensive than a bushel of wheat. For wheat farmers, this dramatic rise in prices is especially acute because more than half the variable cost associated with growing it comes from fuel and fertilizer.
- In 2005, Ohio farmers consumed more than 2.1 million tons of commercial fertilizers. According to the Food and Agriculture Policy Research Institute in 2005, fertilizer costs are up 70 percent and fuel costs are up 113 percent since 2002.



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