



Illinois Energy Outlook

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By Andrew P. Morriss

Two topics dominated talk about Illinois' energy use and production in 2007: gasoline prices and the cost of electricity.

Gasoline

Figure 1 shows the average price of regular gasoline in the Midwest over the past 10 years. Although there have been substantial price increases over the past decade, adjusted for inflation, the real price of gasoline at the end of 2007 was similar to prices in 1980.

Gasoline prices reflect a number of factors. The largest component – 64 percent – is the cost of crude oil, which remains unpredictable. Crude prices increased significantly in recent years due to political instability in major oil producing regions, such as the Middle East, Nigeria and Venezuela, and rising demand for oil in rapidly developing economies such as China and India. Also, oil supplies are shifting away from “light” or “sweet” crudes, which contain relatively few contaminants such as sulfur, toward “heavy” or “sour” crudes. Heavy crudes cost more to process in general and the federal Environmental Protection Agency has been

requiring fuel formulations to be significantly lower in sulfur. The quantity of gasoline produced by a barrel of crude has fallen somewhat in recent years due to these requirements, further increasing the price of gasoline. Formulation requirements also have fragmented the gasoline market, leading to increased prices in some regions due to refining capacity constraints.¹ Both the Chicago area and the Illinois suburbs of St. Louis are required to use special blends to reduce emissions in the summer months.

Nationally, lack of refinery capacity is an increasing problem in meeting demand for gasoline and the shortfall has been met by increased gasoline imports from refineries in the Caribbean and Europe.² No new refineries have been built in the United States since 1976. Although there are efforts in South Dakota and Arizona to build new refineries, ground has not been broken in either state. Total refinery capacity has grown since 1976 through expansion of existing refineries and introduction of improved technology and operating procedures, but some industry observers think we are reaching the limits of current technology to increase capacity through these means.³ And, as the current

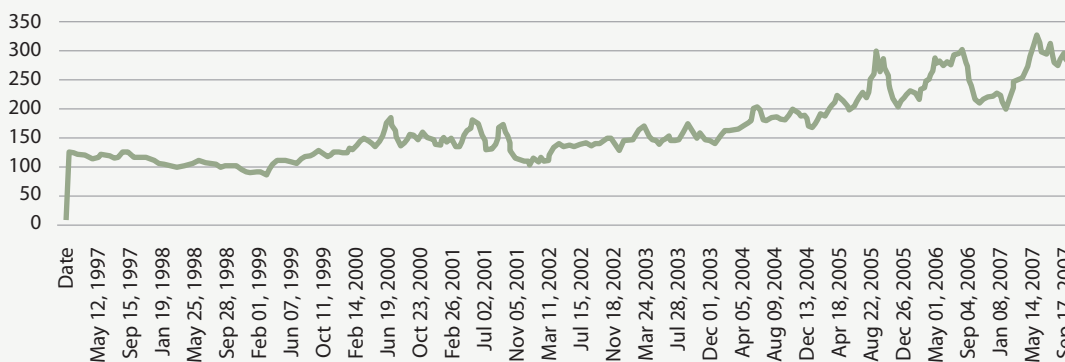


¹ Jennifer Brown, Justine Hastings, Erin T. Mansur, & Sofia B. Villas-Boas, *Reformulating Competition? Gasoline Content Regulation and Wholesale Gasoline Prices*, CUDARE Working Papers, No. 1010 (2006) available at http://repositories.cdlib.org/are_ucb/1010.

² Andrew P. Morriss & Nathaniel Stewart, *Market-Fragmenting Regulation: Why Gasoline Costs So Much (And Why It's Going to Cost More)*, *Brooklyn Law Review* 72:939-1060 (2007).

³ D.J. Peterson & Sergej Mahnovski, *New Forces at Work in Refining: Industry Views of Critical Business and Operations Trends* (2003).

Figure 1
Midwest Regular Conventional Retail Gasoline Prices (Cents per Gallon)





debate about the environmental impact of expanding BP's refinery in Whiting, Ind., suggests, refinery expansion or construction is likely to be controversial.

Illinois is fortunate to have significant refining capacity of its own (5.2 percent of U.S. capacity and four of the 50 largest refineries), which reduces the potential for local shortfalls caused by refinery maintenance or closures due to accidents or fires. However, Illinois refineries have reduced capacity since the 1980s, with the current capacity of 903,600 barrels per calendar day down from 1,024,300 in 1982. (Unless otherwise noted, all data are from the U.S. Energy Information Administration.) Illinois' major refineries are listed in Table 1.

Table 1
Illinois Refineries

National Rank	Company	Site	Barrels per Calendar Day
10	WRB Refining LLC	Wood River	306,000
24	ExxonMobil Refining & Supply Co.	Joliet	238,600
34	Marathon Petroleum Co. LLC	Robinson	192,000
41	PDV Midwest Refining LLC	Lemont	167,000

⁴ American Petroleum Institute, *Notes to State Motor Fuel Excise and Other Tax Rates* (2007) available at <http://www.api.org/statistics/fuel/taxes/> and current through July 1, 2007.

As a crossroads, Illinois has excellent pipeline connections to crude oil sources in the Gulf Coast and Canada. The Capline Pipeline system from Louisiana and the Lakehead and Express/Platte Pipelines from Canada both serve refineries in the state. Crude from Canada has increased in volume sufficiently to reverse the flow in some pipelines, moving crude from Alberta to the Gulf Coast refineries. Thus, the limiting factor to producing gasoline for the Illinois market is refinery capacity rather than crude supply. As refiners face increasing demands for heavy investment to meet both fuel formulation requirements and stationary source emissions standards for their refineries, the capital available for refinery expansion is correspondingly limited.

Table 2
State Gasoline Taxes

State	State Excise Tax	Other Taxes	Total Taxes
Illinois	19.0	21.6	40.6
Indiana	18.0	13.6	31.6
Iowa	20.7	1.0	21.7
Michigan	19.0	17.2	36.2
Missouri	17.0	0.6	17.6
Wisconsin	30.9	2.0	32.9
U.S. Average	18.2	10.2	28.5

Table 3
State Diesel Taxes

State	State Excise Tax	Other Taxes	Total Taxes
Illinois	21.5	19.8	41.3
Indiana	16.0	25.8	41.8
Iowa	22.5	1.0	23.5
Michigan	15.0	17.9	32.9
Missouri	17.0	0.6	17.6
Wisconsin	30.9	2.0	32.9
U.S. Average	18.4	10.1	28.5

Nationally, taxes constitute 14 percent of the price of gasoline. Illinois' taxes on gasoline are well above the national average. Table 2 lists the components of gasoline taxes for Illinois and surrounding states; Table 3 gives the same data for diesel fuel.⁴ Local taxes may add to the amounts in some jurisdictions, for instance city and county taxes add 12.75 cents per gallon in Chicago. The major difference between Illinois' gasoline and diesel taxes and those elsewhere are differences in sales tax and underground fuel storage tank fund tax. To some extent, gasoline and diesel taxes are effectively a user-charge for highway use, approximately indexing the tax burden to the amount of highway wear and tear caused by different users. Transportation fuel taxes also fall partially on out-of-state drivers making use of the state's highways and bridges. However, transportation fuel taxes also are generally



regressive, having a greater proportionate impact on lower-income residents. Higher transportation costs caused by higher diesel taxes mean higher costs for the products hauled by trucks.

Electricity

Illinois is a major electricity producer relative to other states in the region (see Figure 2). Electricity prices proved a hot political issue in 2007, with the state adopting a complex electric rate package in August 2007. In addition to the impact of this legislation, which is too new to assess, increasing concern over global warming is likely to bring about regulatory measures aimed at reducing greenhouse gas emissions. This has the potential to dramatically affect Illinois' utility prices because of the state's heavy reliance on coal-fired power plants.

The Supreme Court's decision in *Massachusetts v. EPA*, 127 S.Ct. 1438 (2007), was a major event for the future of regulation of energy production. By a 5-4 vote, the Court required the EPA to address emissions from mobile sources. This decision and congressional pressure on the agency make it seem certain that the EPA will begin to regulate greenhouse gas emissions, including carbon dioxide emissions, from both stationary and mobile sources in the next few years. Illinois' heavy reliance on coal-fired power plants (just under half of its electricity production) means the state's electricity users are likely to face higher prices as utilities incur costs to reduce emissions. However Illinois' relatively large nuclear power-generation capacity is likely to give the state an overall energy price advantage relative to neighboring states, which rely even more heavily on coal-fired plants (see Figure 3). Figure 4 (pg. 40) shows carbon dioxide emissions for the region.

Figure 2
Net Electricity Generation (thousand MWh)

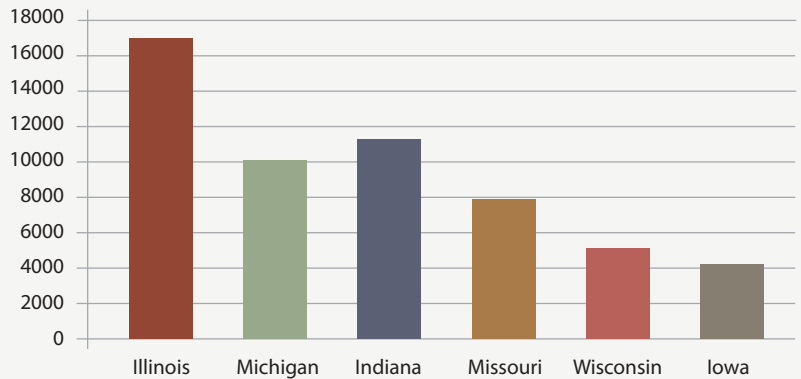
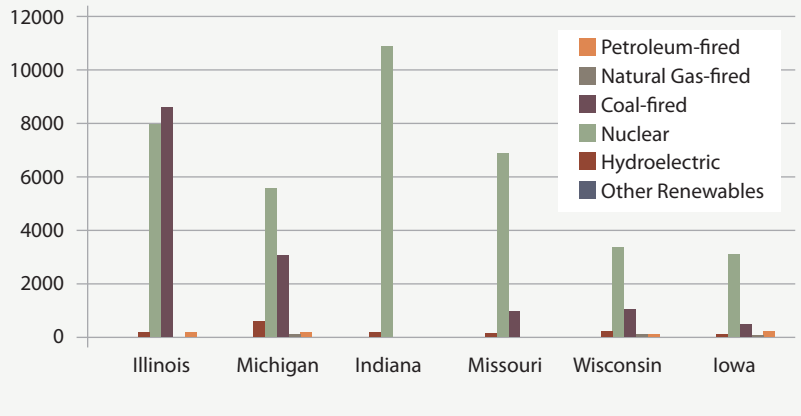


Figure 3
Electricity Generation



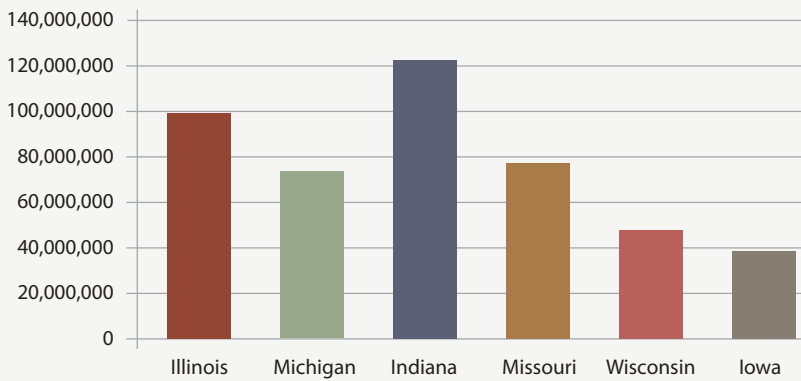
Energy Issues for 2008

Illinois is in a good position relative to its neighbors with respect to supplies of both transportation fuels and electricity. The most likely issues for the legislature in the coming year will relate to the price of gasoline and electricity and the trend toward regulation of greenhouse gas emissions. Having addressed the price of electricity in 2007 with a wide-ranging measure, the General Assembly will undoubtedly be faced with the need to consider technical corrections and modifications as the practical implica-



tions of the legislation become clear. With respect to gasoline, the legislature may wish to look for ways to preserve Illinois' position by assisting refiners' investment in expanding and upgrading the four major refineries in the state. The state's relatively high transportation fuels tax burden may also merit attention. The state also should begin to consider how the seemingly inevitable federal regulation of greenhouse gas emissions will affect Illinois.

Figure 4
CO2 Total Emissions



Andrew P. Morriss joined the IGPA faculty in August 2007. He is the H. Ross and Helen Workman Professor of Law and a professor of business administration at the University of Illinois at Urbana-Champaign. Professor Morriss' primary research interest is in understanding the economic impact of regulatory policy decisions and using economic analysis to explain why particular regulations are written the way they are. He is the author or coauthor of more than 40 book chapters and scholarly articles regarding these and related topics.