American Enterprise Institute for Public Policy Research

AEI

No. 3, 2006

Environmental Policy Outlook

Bringing Down Gas and Oil Prices

By Kenneth P. Green

Once again, high gasoline and oil prices are in the news. As of this writing, the national average gasoline price per gallon ($2.90 on April 23) is approaching a record high of $3.21 per gallon set in 1981 (adjusted for inflation).[1] Oil futures are currently running at about $72.50 per barrel, considerably below the record high of $86.99 per barrel, also set in 1981.[2] The public is upset, and politicians are scrambling to find ways to reduce the pain of high prices, or failing that, to publicly shoot the messenger by investigating, penalizing, or punitively taxing oil companies.

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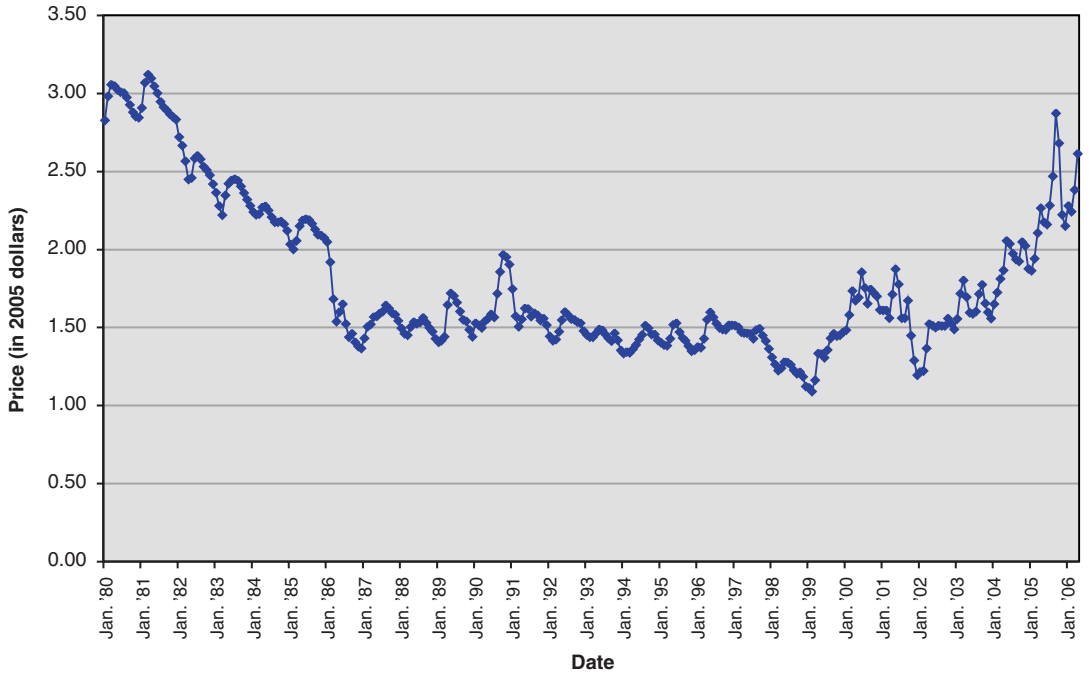
Figures 1 and 2 below show gas and oil price trends since 1980—both graphs are adjusted for inflation.

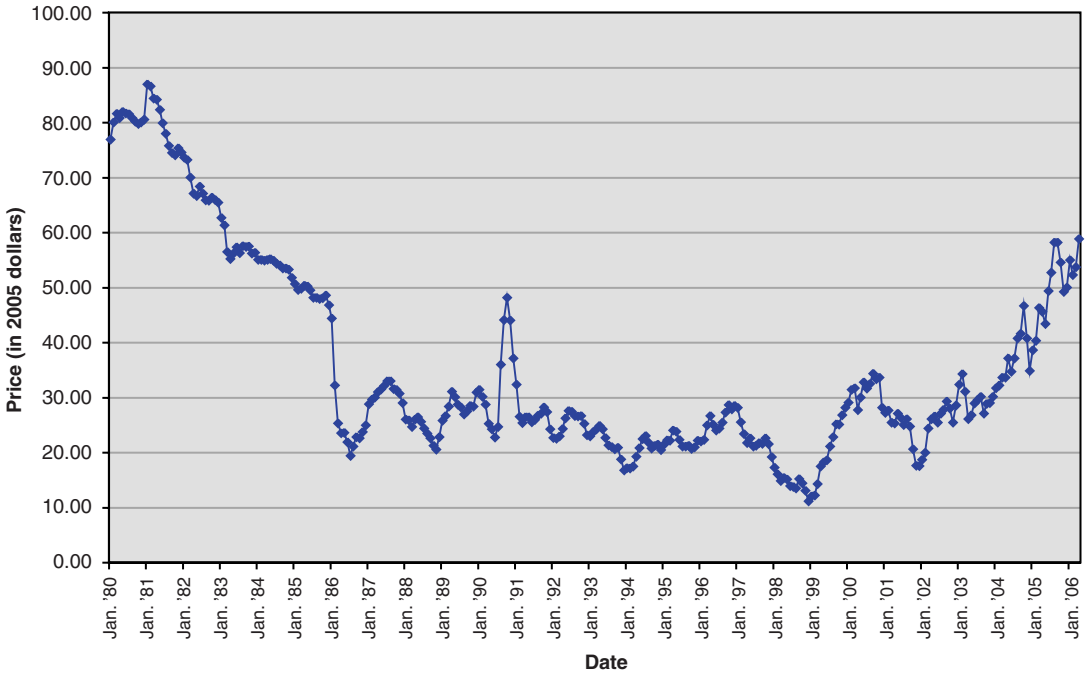
In addition to triggering off a gusher of newspaper editorials, the price pinch at the pump is sparking serious consumer discomfort. An April 2006 poll taken by CNN found 69 percent of respondents felt that high gasoline prices were causing them hardship, and 59 percent of those

Figure 1: Real Gasoline Prices



SOURCE: Author's calculations based on data from the Energy Information Administration (EIA), available at www.eia.doe.gov/emeu/steo/pub/fsheets/PetroleumPrices_files/v3_document.htm.

Figure 2: Cost per Barrel of Imported Oil Acquired By Refiners



SOURCE: Author's calculations based on data from the EIA, available at www.eia.doe.gov/emeu/steo/pub/fsheets/PetroleumPrices_files/v3_document.htm.

people believed that high gasoline prices were causing either a severe (23 percent) or moderate (46 percent) hardship that affects their ability to maintain their current standard of living.[3] And it is clear from the poll what people want: more supply at lower cost. Ninety-one percent of respondents said they would be somewhat or very worried if gasoline prices were twice as high but easily available, while 92 percent said they would be somewhat or very worried if gasoline prices remained where they were but supply was limited, and getting gasoline involved waiting in lines. Clearly, neither high prices nor long waits are Americans' desired future when it comes to gasoline availability. The CNN polling results are backed up by an ABC News/*Washington Post* poll taken on April 10, 2006.[4] That poll showed that 70 percent of respondents felt that recent price increases in gasoline have caused them some hardship, and of those, 44 percent considered the hardship serious. Meanwhile, the CNN poll also showed that 74 percent of those surveyed disapproved of the way that President George W. Bush was handling the high gas price situation.

Why Are Gasoline Prices High?

Setting aside conspiracy theories about oil company collusion (regrettably humored by President Bush in his call for yet another round of investigations),[5] the primary reason for high gasoline prices, as any economist will tell you, is very simple: demand for oil and gasoline is high, and the available supply is limited. But that is when the question stops being simple: there is a long list of potential reasons for the imbalance between how much oil and gas consumers want to buy, how much oil and gas energy companies can supply, and what price point reflects the balance.

Clearly, one of those constraints, and by far the largest, is the international price of oil. According to the Energy Information Administration, world oil prices have risen sharply since 2000 as a result of strong demand growth in developing economies (such as China), coming on top of supply disruptions and "inadequate investment to meet demand growth."[6] The cause of supply disruptions is fairly obvious—9/11, Afghanistan, and the Iraq war all undoubtedly played a role. In 2003, Iraq, which has the third highest proven oil reserves (after Saudi Arabia and Canada),[7] was contributing 2.6 million barrels per day to the world oil market (9 percent of total output from the Persian Gulf)—an outflow already lowered by UN sanctions before the war. Iraqi prewar exports accounted for 19 percent of U.S. oil imports from the Persian Gulf.[8] At the end of 2005, however, total Iraqi oil exports amounted to only 1.2 million barrels per day.[9]

All in all, the Federal Trade Commission attributes about 85 percent of the surge in gasoline prices over the last twenty years to increases in the price of crude oil.[10]

The price of crude oil is not something entirely beyond America's control. As AEI's James K. Glassman points out, had we opened up the Arctic National Wildlife Refuge to development ten years ago, we would have been producing another million barrels per day of domestic oil, or about 6 percent of our total consumption.[11] And, according to the Interior Department, there are 102 billion barrels of oil under the Outer Continental Shelf of the United States and Alaska. That is enough oil to fuel 85 million cars for thirty-five years. Regrettably, most of that oil has been placed off-limits to production by presidential, Congressional, and state moratoria on exploration and development.

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But if 85 percent of the cost of gasoline is due to fluctuations in the price of crude, then 15 percent is due to something else or a bunch of something elses. The Federal Trade Commission suggests that the other 15 percent of the cost of gasoline is influenced by a variety of supply and public policy factors, including the proliferation of boutique fuels.[12]

One such policy-driven factor would be the fractionation of U.S. gasoline markets induced by federal and state environmental regulations. In order to fulfill air pollution reduction plans in states and localities across the country, gasoline sold in the United States has been fractionated into about seventeen different boutique fuels sold in dozens of discrete markets. With three grades of gasoline per fuel, refiners are producing over fifty separate blends. The situation will only get worse as the Environmental Protection Agency's new ozone standards kick in and force more areas into reformulated gasoline requirements. Such boutique fuel requirements both increase price volatility and the height of price-spikes as a function of the distance-to-market of boutique fuel producers and consumers, according to the Energy Information Administration.[13] Boutique fuel requirements also increase the absolute price of gasoline sold in boutique markets, according to the U.S. Government Accountability Office:

> The proliferation of special gasoline blends has made it more complicated to supply gasoline and has raised costs, significantly affecting operations at refineries, pipelines, and storage terminals. At refineries, making these blends can require additional investment such as installing new processing equipment and the use of larger amounts of valuable components in the blending process—making it more costly to produce special gasoline blends. Once produced, different blends of gasoline must be kept separate throughout the shipping and delivery process, and the increased number of gasoline blends has reduced the capacity of pipelines and storage terminal facilities, which were originally designed to handle fewer products. For example, several pipeline companies reported that the capacity of their systems has been reduced because they have had to slow the speed of products through the pipelines in order to off-load special blends at specific locations, which raises the average cost of shipping gasoline. Similarly, storage terminals have not been able to fully utilize the volume of their storage tanks because the tanks were designed to handle fewer types of fuel and are often larger in size and fewer in number than necessary for handling smaller batches of special gasoline blends. Further, the proliferation of special blends has, according to several buyers from these wholesale markets, limited the number of suppliers of some of these fuels, posing challenges when traditional supplies are disrupted, such as during a refinery outage or pipeline delay. In the past, local supply disruptions could be addressed relatively quickly by bringing fuel from nearby locations; now, however, additional supplies of special gasoline blends may be hundreds of miles away.[14]

Another policy factor that may have contributed to the increased price of gasoline is the reduction in the number of operating refineries in the United States over the last thirty years. The number and capacity of U.S. refineries peaked in 1981, and since then, 171 plants have closed, although the remaining plants have increased output to offset a loss of production.[15] Though most of this reduction has been caused by the low profit potential of refineries, others see a significant cause in "extremely tight environmental restrictions, not-in-my-back-yard community opposition [NIMBYism], and the high cost of new construction."[16]

Still another recent constraint on supply has been Congressional actions stimulating the rapid substitution of one fuel oxygenate (MTBE) with a more expensive—and scarce—alternative (ethanol). In the summer of 2005, Congress took two actions almost guaranteed to hike the price of some boutique fuels. First, Congress failed to give liability protection to the makers of MTBE for the damage it has caused to the environment. At the same time, Congress passed an energy bill mandating the use of 7.5 billion gallons of ethanol as an oxygenate by 2012.[17] The result? A 91 percent increase in the cost of ethanol used in gasoline.[18]

What Has Been Done

President Bush has taken a few steps that are ostensibly aimed at easing America's rapidly rising gas prices. While two of those steps are reasonable (if insufficiently enduring), the president's other actions are of somewhat dubious utility.

In terms of concrete actions that make sense, the president has stopped filling the Strategic Petroleum Reserve, freeing up 25,000 barrels of oil per day to go to refineries. That is not a huge amount (0.25 percent of U.S. daily consumption), but it is not trivial either.[19] The president has also prevailed upon the EPA to temporarily lower federal environmental standards preventing gasoline from being used in boutique markets created through federal environmental mandates.

On the "dubious utility" front, Mr. Bush has joined in calls for an investigation of oil price-fixing, and he has utilized the bully pulpit (some would say foolishly) to demonize America's use of oil as an "addiction."[20] In addition, the president has taken to promoting fuels and technologies such as hybrid vehicles, ethanol, and hydrogen-fueled vehicles that, because of higher costs for both fuel and technology, can only *increase* the costs of American mobility.

As Jim Wells, director of Natural Resources and Environment at the Government Accountability Office, testified to Congress in 2001, "According to most stakeholders we contacted last year, on average, alternative fuel vehicles cost more than conventional vehicles, which reduces the incentive for their purchase, although these costs vary by type of vehicle. For example, a vehicle that runs on compressed natural gas generally costs from $3,000 to $5,000 more than the conventional version of the same vehicle. In addition, last year, we reported that the price of an electric-powered vehicle ranges from the low $30,000s to the mid $40,000s."[21] The situation is no better for the highly touted hybrids. Several recent analyses have shown fuel cell vehicles to be net money losers even with gasoline at $3 per gallon.[22] Hydrogen vehicles fare still worse. Joseph Romm, former assistant secretary of energy for Energy Efficiency and Renewable Energy, observes that according to "a 2002 analysis for the National Renewable Energy Laboratory by Dale Simbeck and Elaine Chang, the cost of producing and delivering hydrogen from natural gas, or producing hydrogen onsite at a local filling station, is $4 to $5 per kg (excluding fuel taxes), comparable to a gasoline price of $4 to $5 a gallon. [A kilogram of hydrogen contains about the same usable energy as a gallon of gasoline.] This is more than three times the current untaxed price of gasoline."[23]

> Setting aside conspiracy theories about oil company collusion (regrettably humored by President Bush in his call for yet another round of investigations), the primary reason for high gasoline prices, as any economist will tell you, is very simple: demand for oil and gasoline is high, and the available supply is limited.

Instead of wasting time (and distorting the market for gasoline) with talk of addiction, attacking Iran, windfall profit taxes, price gouging, executive compensation, alternative fuels and so forth, the administration should focus on removing governmental impediments to supply and production, and terminating governmental actions that raise the cost of energy.

Increase Supply

1. *Open ANWR to development.* Opening the Arctic National Wildlife Refuge (ANWR) for oil exploration and eventual oil production would not, of course, help the immediate gasoline price situation and would not help President Bush's voter approval ratings among environmentalists. But over time, by decreasing U.S. imports, it could provide a supply to help buffer fluctuations in world oil prices. Modern technology would allow this to be done with environmental sensitivity. The president should continue to press Congress to

allow environmentally careful exploration and development of ANWR's oil and gas resources.

2. *Extend the moratorium on filling the Strategic Petroleum Reserve until equal or greater new petroleum resources have been developed.* The value of the Strategic Petroleum Reserve is open to debate, but it is clear that when oil is in short supply and fuel prices are climbing, it is a bad time to be putting oil back into the ground.[24] President Bush has established a moratorium on filling the strategic petroleum reserve, which will free a small but significant amount of oil to go into the gasoline production pipeline rather than into holes in Texas and Louisiana, but it is unclear how long that moratorium will last. The president should extend the moratorium on filling the Strategic Petroleum Reserve until (at the very least) the administration can demonstrate new supply sources in excess of what filling the reserve diverts from consumer markets. Better still, the president should recognize analyst findings that the Strategic Petroleum Reserve has set aside oil at high cost, that scenarios in which that oil would be a vital asset are unlikely to occur, and that the best thing to do with the strategic petroleum reserve would be to sell the oil and to shut the program down.

3. *Facilitate exploration and development of offshore oil reserves.* Exploration and development of Outer Continental Shelf reserves was supported by 60 percent of the respondents to a poll taken by the Consumer Alliance for Energy Security, a coalition of industrial and institutional energy users.[25] As the Energy Information Administration observes, "Today, natural gas and oil drilling is prohibited in all offshore regions along the North Atlantic coast, most of the Pacific coast, parts of the Alaska coast, and most of the eastern Gulf of Mexico."[26] Again, modern technology allows for the environmentally conscientious development of offshore oil and gas. Congress should stop obstructing offshore oil and gas development by ending Congressional moratoria and by funding the Minerals Management Service at a level that would enable the development of offshore leases. President Bush should end previous presidential moratoria now in place that would preclude exploration in coastal areas through 2012. Finally, the approval process for offshore exploration, which now requires satisfying the regulatory requirements of the Department of the Interior, the Environmental Protection Agency, the Department of Commerce National Oceanic and Atmospheric Administration (NOAA), and the U.S. Fish and Wildlife Service, should be streamlined to a one-stop-shop process that would simplify access and increase predictability of successful application for exploration and eventual development of off-shore reserves.[27]

Remove Barriers to Lower-Cost Production

1. *Lift federal boutique fuel requirements permanently.* Congress's removal of the oxygenate requirement for reformulated gasoline was a good step, though it falls far short of ending the fragmentation of U.S. gasoline markets. Removing all of the reformulated gasoline requirements, on the other hand, could de-fragment the market considerably, eventually lowering the absolute cost of gasoline and smoothing out geographical spikes in gasoline prices. As AEI's Joel Schwartz has noted, air pollution levels will continue to decline because of improving technology independent of reformulated gasoline provisions.[28] The federal government cannot end the state-based fragmentation of gasoline markets (absent the will to further amend the Clean Air Act, which allows California and copycat states to set higher environmental standards than the federal government), but it can at least alleviate the problems for which it is directly responsible. Federal mandates for boutique fuels (reformulated gasoline) in the Clean Air Act should be permanently suspended or eliminated.

2. *Terminate the ethanol mandate and strike imported ethanol tariffs.* As discussed above, energy subsidies and mandates are almost certainly contributing to higher gasoline prices. Removing the provisions of the energy bill mandating ethanol would ease demand for ethanol, lowering the cost of gasoline in which ethanol is used as a fuel additive. Congress should eliminate the requirements for ethanol use in the Energy Policy Act of 2005. And, since low-cost ethanol is better than high-cost ethanol, Congress should strike the tariffs on ethanol imports from amply endowed countries like Brazil, which are currently $0.54 per gallon, so that regions that continue to favor ethanol-blended gasoline can acquire it at the lowest price.

3. *Reduce regulatory barriers to building and expanding refineries.* As the Petroleum Industry Research Foundation notes:

> Meeting the economic and regulatory challenge of rehabilitating existing domestic facilities—not to

mention constructing new ones—would require a comprehensive approach to refining policy that involves the multiple layers of government implementing refining policy, and the differing interests within the refining industry itself. The federal government would have to be a forum for sifting through the economic, environmental, and regulatory realities of the refining business and synthesizing fruitful possibilities in a world where there are no silver bullets and few short-term solutions.[29]

The administration should convene a task force with a specific mandate to find and implement realistic short-term measures to reduce the negative impacts of environmental compliance procedures and NIMBYism on the petroleum refining industry, allowing market forces to determine refinery growth. This could include identifying opportunities for regulatory streamlining, or reducing the impacts of NIMBYism by allowing the citing of new refineries on federally held land, possibly already-polluted Superfund sites, or closed military bases.

AEI editor Scott R. Palmer worked with Mr. Green to edit and produce this Environmental Policy Outlook.

Notes

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15. Lawrence Kumins, Larry Parker, and Brent Yacobucci, *Refining Capacity—Challenges and Opportunities Facing the U.S. Industry* (New York: Petroleum Industry Research Foundation, Inc., August 2004).

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