

The Delusions of “Energy Independence”

Whether it’s financial independence, political independence, the Declaration of Independence, or grilling hotdogs on Independence Day, America’s self-image is inextricably bound to the concepts of freedom and autonomy. The promises laid out by the Declaration—life, liberty, and the pursuit of happiness—are the shared faith and birthright of all Americans.

Alas, the Founding Fathers didn’t write much about gasoline.

Nevertheless, over the past 30 years or so—and particularly over the past three or four years—American politicians have been talking as though Thomas Jefferson himself warned about the dangers of imported crude oil. Every U.S. president since Richard Nixon has extolled the need for energy independence. In 1974, Nixon promised it could be achieved within six years.¹ In 1975, Gerald Ford promised it in ten.² In 1977, Jimmy Carter warned Americans that the world’s supply of oil would begin running out within a decade or so and that the energy crisis that was then facing America was “the moral equivalent of war.”³

“Energy independence” has since become a prized bit of meaningful-sounding rhetoric that can be tossed out by candidates and political operatives eager to appeal to the broadest cross-section of voters. When the U.S. achieves energy independence, goes the reasoning, America will be a self-sufficient Valhalla, with lots of well-paying manufacturing jobs that will come from producing new energy technologies. Farmers will grow fat, rich, and happy by growing acre upon acre of corn and other plants that can be turned into oil-replacing ethanol. When America arrives at the promised land of milk, honey, and super-cheap motor fuel, then U.S. soldiers will never again need visit the Persian Gulf, except, perhaps, on vacation. With energy independence, America can finally dictate terms to those rascally Arab sheikhs from troublesome countries. Energy independence will mean a thriving economy, a positive balance of trade, and a stronger, better America.

The appeal of this vision of energy autarky has grown dramatically since the terrorist attacks of September 11, 2001. During the 2008 presidential campaign, it became a mantra for the candidates seeking the White House. Both John McCain and Barack Obama frequently used the phrase on the campaign trail. For instance McCain told voters in Iowa, “We need energy independence. We need it for a whole variety of reasons...”⁴ On his campaign website, Obama declared that he wanted

Robert Bryce, based in Austin, Texas, has been writing about the energy business for about two decades. His latest book is Gusher of Lies: The Dangerous Delusions of “Energy Independence.”

to “get America closer to energy independence” and that doing so “will require far more than the same Washington gimmicks and continued dependence on costly and finite resources.”⁵

While McCain and Obama both recycled the same familiar rhetoric, it took Paris Hilton, the hotel heiress/socialite, to take the energy independence rhetoric to a new level of absurdity. In the summer of 2008, Hilton laid out her energy platform in a video that was released just a few days after McCain’s campaign began running a TV ad that compared Obama’s celebrity to hers.

“I want America to know that I’m, like, totally ready to lead,” Hilton purred in an Internet video. Lying on a white recliner positioned on a perfectly manicured green lawn, Hilton, wearing only a bathing suit and high heels, spoke directly to the

camera, declaring that she, too, was running for president and was therefore ready to “present my energy policy to America.” The 20-something diva declared that she favored increased offshore drilling tied to tax incentives for automakers to help them produce hybrid and electric cars. “That way, the offshore drilling carries us until the new technologies kick in, which will then create new jobs and energy independence. Energy crisis solved.”⁶

Obviously, the phrase “energy independence” has plenty of traction among

The phrase “energy independence” has plenty of traction among Democrats, Republicans, and certain hotel heiresses. The only problem is that energy independence is neither doable nor desirable. From nearly any standpoint—economic, military, political, or environmental—energy independence makes no sense.

Democrats, Republicans, and certain hotel heiresses. The only problem is that energy independence is neither doable nor desirable. From nearly any standpoint—economic, military, political, or environmental—energy independence makes no sense.

America’s inane obsession with the concept of energy independence is causing two serious problems. First, it prevents the U.S. from having an honest discussion about the many energy challenges it now faces. Second, and far more damaging, is that the rhetoric of energy independence is being used to support costly boondoggles like the corn ethanol scam, a program that has done next to nothing to reduce oil imports but has effectively placed a new tax on food while also causing a myriad of other problems.

Let’s start with feasibility. The idea that the U.S., the world’s single biggest

energy consumer, can be independent of the world’s single biggest industry, the \$6-trillion-per-year energy sector, is ludicrous on its face. The reality is that the world—and the energy business in particular—is becoming ever more interdependent. And this interdependence will likely only accelerate in the years to come, as new supplies of fossil fuel become more difficult to find and more expensive to produce. While alternative and renewable forms of energy will make minor contributions to America’s overall energy mix, they cannot provide enough new supplies to supplant the existing global energy paradigm, one in which nearly every type of fuel—crude oil, natural gas, diesel fuel, gasoline, coal, and uranium—gets traded and shipped in an ever-more-sophisticated global market.

Regardless of the ongoing fears about oil shortages, global warming, conflict in the Persian Gulf, or terrorism, the plain, unavoidable truth is that the U.S., along with nearly every other country on the planet, depends on fossil fuels. And that dependence will continue for the foreseeable future, meaning the next 30 to 50 years. That means that the U.S. and the other countries of the world will continue to need oil and gas from the Persian Gulf and other regions. In short, the U.S. must accept the reality of *energy interdependence*. A

myriad of facts are available that demonstrate the reality of our increasing energy interdependence. Here are just a few:

- In 2007, when you count crude oil and all other oil products, the U.S. imported oil from 90 different countries.⁷ In 2007, the U.S. exported—yes, exported—an average of 1.4 million barrels of oil products per day to customers in 73 countries.⁸
- America’s nuclear power industry, which supplies about 20 percent of the country’s electricity, imports more than 80 percent of the uranium needed to fuel its reactors.⁹
- In 2006, the U.S. imported electricity from both Canada and Mexico.¹⁰ It also imported coal from 11 different countries and natural gas from six others.¹¹
- Neither the Saudis nor the Iranians are energy independent. In 2005, the Saudis *imported* an average of 83,000 barrels of gasoline and other refined oil products

The idea that the U.S., the world’s single biggest energy consumer, can be independent of the world’s single biggest industry, the \$6-trillion-per-year energy sector, is ludicrous on its face. The reality is that the world—and the energy business in particular—is becoming ever more interdependent.

per day.¹² Iran currently imports about 40 percent of its gasoline needs, as well as large quantities of natural gas.¹³ If the Saudis, with their 260 billion barrels of oil reserves, and the Iranians, with their 132 billion barrels of oil and 970 trillion cubic feet of natural gas reserves, can't be energy independent, why should the U.S. even try?¹⁴

Furthermore, the focus on energy ignores America's interdependence with other countries for a myriad of strategic commodities. Although the U.S. imports about 60 percent of its total oil needs, it imports about 80 percent of its semiconductors.¹⁵

The historical record shows that the most effective—and also, unfortunately, perhaps the most painful—way to change consumers' habits is through increased prices.

Like oil, semiconductors are an essential commodity. And yet, the U.S. has not deployed the 82nd Airborne Division to Taiwan as an insurance policy against the possibility that a foreign power might halt the flow of flash memory, processors, and other computer hardware. Nor are any politicians declaring the need for America to be “semiconductor independent.”

America's interdependence extends far beyond oil and semi-

conductors. The U.S. is heavily dependent on imported minerals. The U.S. imports 100 percent of its bauxite, alumina, manganese, strontium, yttrium, and 13 other strategic mineral commodities. According to the U.S. Geological Survey, the U.S. imports 99 percent of its gallium, 91 percent of platinum, 88 percent of its tin, 81 percent of its palladium, 76 percent of its cobalt, and 72 percent of its chromium.¹⁶ All of those items are essential commodities in the American economy. So why aren't the neoconservatives calling for palladium independence? or cobalt independence?

Despite those facts, Congress has adopted numerous policies that are—at least in theory—designed to reduce U.S. need for foreign oil. In the 1980s, during another binge of rhetoric about energy independence, Congress spent billions of dollars trying to make oil shale economically viable. It failed miserably. Today, billions of dollars are being wasted on counter-productive corn ethanol subsidies.

Whatever progress the U.S. has achieved in terms of increased energy efficiency and reduced oil imports has largely come through the most effective force: market forces. For instance, in the first eight months of 2008, oil demand fell by 4 percent relative to the same period in 2007, the biggest decline since 1982. Meanwhile, overall oil imports fell by nearly 14 percent.¹⁷ Indeed, the historical record shows that the most effective—and also, unfortunately, perhaps the most painful—way to change consumers' habits is through increased prices.

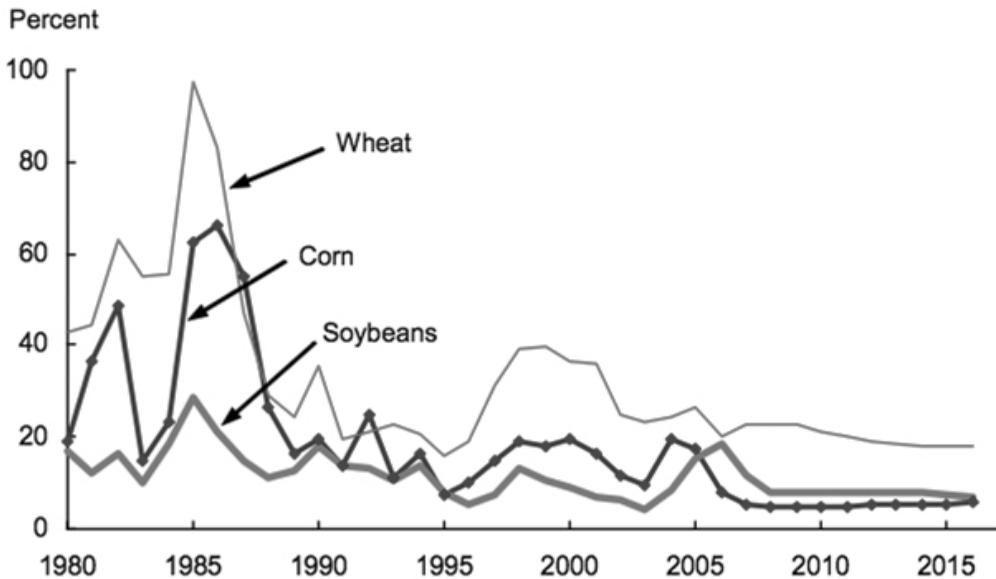


Figure 1. U.S. Stocks-to-Use Ratios, 1980 to 2016: Corn, Wheat, and Soybeans
Source: U.S. Department of Agriculture, “U.S.D.A. Long-term Projections, February 2007,” 31.
Available at: <http://www.ers.usda.gov/publications/oce071/oce20071c.pdf>.

THE CORN ETHANOL BOONDOGGLE

The corn ethanol mandates and subsidies are the single most offensive example of America’s misguided energy policy. While corn ethanol has many negative effects on air quality, water quality, and greenhouse gas emissions, I will focus here on the most important issue: food.

In 2005 and again in 2007, Congress passed laws mandating increased use of corn ethanol in America’s motor fuel mix. Those mandates have led to a flood of capital investment in the corn ethanol sector. America now has about 200 corn distilleries—built at a cost of more than \$15 billion¹⁸—that will be capable of producing some 13.75 billion gallons of corn ethanol per year.¹⁹ In 2008, those plants gobbled up about one-third of all the corn grown in the U.S., about 4.1 billion bushels per year. That 4.1 billion bushels of corn being used to make ethanol is more than twice as much corn as was produced by the entire European Union in 2006, and more than five times as much as was raised in Mexico.²⁰

The result of these Congressional mandates is pure madness: the U.S. is burning food to make motor fuel at a time when there is a growing global shortage of food and no shortage of motor fuel.

With the corn ethanol scam, the U.S. is setting the table for what could be a global food crisis. The expansion of the corn ethanol sector is occurring at the same time that global grain reserves are shrinking, world population is increasing, and global agricultural productivity is slowing. In July 2008, the U.S. Department of Agriculture (USDA) released a report that showed that global grain reserves

were at their lowest levels since 1970. Furthermore, those grain reserves—about 300 million tons—were less than half the reserve volumes on hand as recently as 1997.²¹ And the agency expects the trend to continue. In fact, it expects that U.S. stocks of corn, wheat and soybeans will be at or near historic lows through 2016.²² A 2007 report also plainly states that ethanol production is to blame for the lower grain reserves, saying that “Strong ethanol demand sharply lowers U.S. corn stocks in the projections.”²³

This is an essential point. Work done by Indian economist and Nobel Prize winner Amartya Sen shows that in many cases of famine, the key issue is not necessarily a shortage of food, but rather spikes in food prices. When combined with increasing food demand and periods of declining wages and unemployment, the increases in food prices can be devastating for the world’s poor.²⁴ Given the financial meltdown in 2008 and its effect on the poorest countries—the conditions that Sen blamed back in the 1980s when he did his seminal work on famine—appear to be on the march again. And Sen recognizes the corn ethanol boondoggle as a problem. In an opinion piece published in the *New York Times* on May 28, 2008, he called the corn ethanol mandates “misguided government policy.” The result of the policy, he wrote, is that “the stomachs of the hungry must also compete with fuel tanks.”

To be fair, a number of factors had an effect on the spike in grain prices, including the increasing price of energy, poor harvests in other countries, the falling value of the dollar, and rising grain demand from developing countries like India and China. That said, there is simply no denying the effect that corn ethanol has had on food prices. Since mid-2007, at least 11 studies have found that increased biofuel production raised food prices.

Among the first studies was a May 2007 report by the Center for Agricultural and Rural Development at Iowa State University, which said the federal ethanol mandates (which require gasoline retailers to be using a minimum of 15 billion gallons of ethanol per year in their fuel by 2015) at the time had increased the food bill for every American by about \$47 per year, due to grain price increases for corn, soybeans, wheat, and others. The Iowa State researchers concluded that American consumers faced a “total cost of ethanol of about \$14 billion.”²⁵ And that figure did not include the cost of federal subsidies to corn growers or the \$0.51 per gallon tax credit to ethanol producers.²⁶

In March 2008, a report commissioned by the Coalition for Balanced Food and Fuel Policy (a coalition of eight meat, dairy, and egg producers’ associations based in Washington, D.C.), estimated that the biofuels mandates passed by Congress will cost the U.S. economy more than \$100 billion from 2006 to 2009. The report declared that “The policy favoring ethanol and other biofuels over food uses of grains and other crops acts as a regressive tax on the poor.” It went on to estimate that the total cost of the U.S. biofuels mandates will total some \$32.8 billion this year, or about \$108 for every American citizen.²⁷

An April 8, 2008 internal report by the World Bank found that grain prices increased by 140 percent between January 2002 and February 2008. “This increase

was caused by a confluence of factors but the most important was the large increase in biofuels production in the U.S. and E.U. Without the increase in biofuels, global wheat and maize [corn] stocks would not have declined appreciably and price increases due to other factors would have been moderate."²⁸

In early July 2008, Britain's Renewable Fuels Agency concluded, "Biofuels contribute to rising food prices that adversely affect the poorest."²⁹ On July 16, 2008, the Organization for Economic Cooperation and Development (OECD) issued its report on biofuels that concluded, "Further development and expansion of the biofuels sector will contribute to higher food prices over the medium term and to food insecurity for the most vulnerable population groups in developing countries."³⁰

Yet another telling report comes from the USDA, the federal agency that has long been one of the corn ethanol sector's biggest boosters. Its leaders have repeatedly downplayed the role that ethanol played in the food price spike.³¹ And yet, in July 2008, the department released a report called "Food Security Assessment, 2007," which states very clearly that the biofuels mandates are pushing up food prices. The first page of the report says, "The use of food crops for producing biofuels, growing demand for food in emerging Asian and Latin American countries, and unfavorable weather in some of the largest food-exporting countries in 2006-07 all contributed to growth in food prices in recent years."³²

While that admission is important, the relevance of the July 2008 report revolves around its projections about the growing numbers of people around the world who are facing food insecurity. And while the USDA report does not correlate this increasing food insecurity with soaring ethanol production, the connections are abundantly clear: as the U.S. uses more corn to make motor fuel, there is less grain available on the market. That means more volatility in prices. The USDA report goes on saying that the number of people facing food insecurity jumped from 849 million in 2006 to 982 million in 2007. And those numbers are expected to continue rising. By 2017, the number of food-insecure people is expected to hit 1.2 billion. And, says the USDA, "short-term shocks, natural as well as economic" could make the problem even worse.

Despite these many reports, ethanol boosters continue to claim that they are not to blame. For instance, the Renewable Fuels Association, a trade group funded by the ethanol producers, has claimed that "corn demand for ethanol has no noticeable impact on retail food prices."³³

Just as maddening as their refusal to face the facts with regard to food prices, the ethanol advocates claim that the U.S. should be increasing the use of corn for motor fuel because it will help fight terrorism. This argument rests on a simple thesis: that a collapse in the price of oil will mean the petrostates won't be able to afford terrorism and that they will reform their economies. This claim that oil equals terrorism has become commonly accepted wisdom, repeated by politicians from both ends of the political spectrum. Among the main promoters of this claim is Set America Free, a group formed in 2004 by leading neoconservatives like former CIA director James Woolsey.³⁴ The group's manifesto, published in September

2004, declares that the U.S. can “no longer...postpone urgent action on national energy independence.” It goes on, saying that “over the next four years” the U.S. should achieve “a dramatic reduction in the quantities of oil imported from unstable and hostile regions of the world.”³⁵

The problem for ethanol advocates at organizations like Set America Free (who also contend that corn ethanol is not a major factor in rising food prices) is that their thesis about lower-priced oil cutting terrorism has already been tested, and proven false.

Between about 1986 and 2000, oil prices generally stayed below \$20 per barrel. By the end of 1998, prices had fallen as low as \$11 per barrel.

And yet those low prices did not stop terrorism. On September 11, 2001, the day of the al-Qaeda attacks on the U.S., the price of oil was \$27.65.³⁶ Even if the U.S. quit importing oil—all oil—it won’t stop terrorism. Why? Because terrorism is a cheap endeavor. The 9/11 attacks cost about \$500,000.

In 2007, the Cato Institute did an analysis of oil prices and terrorism using data between 1983 and 2005. Their conclusion: “there is no correlation between Persian Gulf oil revenues and terrorist activity.”³⁷

Furthermore, even if the U.S. quits buying oil, it won’t mean an end to the flow of money to the petro-states. According to the Energy Information Administration, out of the 204 countries and territories that they track, 173 are net oil importers.³⁸ If the U.S. quits buying oil, there are 172 other countries on the planet who will enjoy cheaper oil. And they will buy it from the lowest-cost oil producer. Oil is a fungible commodity. Whatever oil the U.S. does not buy will be bought by someone else. Saudi crude being loaded at Yanbu that doesn’t get purchased by a refinery in Corpus Christi or Houston will instead go to refiners in Singapore or Shanghai.

The energy isolationists who preach the virtues of energy independence are blind to the realities of the global energy market. Unless or until some inventor can come up with a substance that can replace all of the world’s oil production, we cannot put the petro-states out of business.

TOWARD A REALITY-BASED ENERGY POLICY

So what should be done with regards to U.S. energy policy? Here are a few suggestions.

First and foremost, the U.S. must discard the notion of “energy independence” and accept the reality of energy interdependence. Second, the U.S. should use more natural gas in the terrestrial transportation sector, particularly for urban fleets of heavy vehicles. The U.S. imports 60 percent of its oil, but only about 20 percent of its natural gas. Using more domestic gas will improve air quality, reduce demand for diesel fuel (which is in very high demand right now), and reduce greenhouse gas emissions. Third, the U.S. can begin encouraging the use of electric cars—a transition that appeared underway until the recent collapse in the price of fuel. A handful of automakers are pushing this approach; they continue to do so not

because of government mandates but because they see a potential market. Fourth, convince a group of foundations to fund the Super Battery Prize. They should offer \$1 billion for anyone who can create a compact, affordable, safe battery that can store multiple kilowatt hours of electricity. Offer \$10 billion to anyone who can create a battery with those attributes that can store multiple megawatt hours of electricity. A Super Battery is the key breakthrough needed to make solar power and wind power truly viable.³⁹

Finally—and this is the hard one—the U.S. must engage the Arab and Islamic worlds. Fear sells. And in order to keep selling what has become known as the “long war” the neoconservative pundits in the U.S. are continually reminding Americans that they are in dire straits, that there’s a jihadi from Yemen or Saudi Arabia lurking in every airplane lavatory, and that Islamic fanatics are prowling every city, ready and willing to wreak unspeakable nuclear or biological havoc on the residents of Des Moines and Dubuque. The reality is that some 28 percent of the world’s population—about 1.8 billion people—are Muslim. Efforts to isolate ourselves from them are doomed to fail. The American military strategist John Boyd, in his declarations on strategy made it clear that the U.S. cannot isolate itself from its potential foes. Instead, it must interact with them. Boyd declared that “Interaction permits vitality and growth while isolation leads to decay and disintegration.”⁴⁰

The continuing use of fear as a political tool—along with the constant drumbeat of terrorism—has become part and parcel of America’s demented approach to energy policy, a policy that has become far too reliant on militarism at a time when markets, not militarism, are ascendant. And therein lies the essential point: The U.S. must accept the reality of the global marketplace. The world is growing smaller and more interdependent every day. Whether the commodity is iPods and fresh flowers, or tennis shoes and gasoline, world trade is accelerating. The idea that the U.S. should isolate itself from the gargantuan global energy market makes no sense at all. Only by accepting interdependence can we be assured of reliable, affordable, flows of energy. The sooner the U.S. accepts that reality, the safer and more prosperous it will be.

The world is growing smaller and more interdependent every day. Whether the commodity is iPods and fresh flowers, or tennis shoes and gasoline, world trade is accelerating.... The sooner the U.S. accepts that reality, the safer and more prosperous it will be.

1. Richard Nixon, State of the Union address, January 30, 1974. Available at: <http://www.thisnation.com/library/sotu/1974rn.html>.
2. Gerald Ford, State of the Union address, January 15, 1975. Available at: <http://www.ford.utexas.edu/LIBRARY/SPEECHES/750028.htm>.
3. Jimmy Carter, televised speech on energy policy, April 18, 1977. Available at: http://www.pbs.org/wgbh/amex/carter/filmmore/ps_energy.html.
4. Shailagh Murray, "Ethanol Undergoes Evolution as Political Issue," *Washington Post*, March 13, 2007, A06. Available: http://www.washingtonpost.com/wp-dyn/content/article/2007/03/12/AR2007031201722_pf.html.
5. Available at: http://www.barackobama.com/pdf/factsheet_energy_speech_080308.pdf.
6. Video available: http://www.mahalo.com/Paris_hilton_revenge_video
7. Energy Information Administration data. Available at: http://tonto.eia.doe.gov/dnav/pet/pet_move_impcus_a2_nus_ep00_im0_mbbldpd_a.htm
8. E.I.A. data. Available at: http://tonto.eia.doe.gov/dnav/pet/pet_move_expc_a_EP00_EEX_mbbldpd_a.htm.
9. E.I.A. data. Available at: <http://www.eia.doe.gov/cneaf/nuclear/umar/table3.html>.
10. E.I.A. data. Available at: <http://www.eia.doe.gov/cneaf/electricity/epa/epat6p3.html>
11. E.I.A. data. Available at: <http://www.eia.doe.gov/cneaf/coal/quarterly/html/t18p01p1.html>. For gas imports: http://tonto.eia.doe.gov/dnav/ng/ng_move_impvc_s1_a.htm.
12. Organization of Arab Petroleum Exporting Countries, Annual Statistical Report 2006, 75. Available at: <http://www.oapecoreg.org/images/A%20S%20R%202006.pdf>.
13. Nazila Fathi and Jad Mouawad, "Unrest Grows Amid Gas Rationing in Iran," *New York Times*, June 29, 2007. According to this story, Iran imports gasoline from 16 countries. Iran has been importing natural gas from Turkmenistan since the late 1990s. In 2008, those imports will likely be about 1.3 billion cubic feet of natural gas per day. The fuel will be used to meet demand in northern Iran. For more, see, David Wood, Saeid Mokhtab, and Michael J. Economides, "Iran Stuck in Neutral," *Energy Tribune*, December 2006, 19.
14. E.I.A. data. Available: <http://www.eia.doe.gov/emeu/cabs/saudi.html>. E.I.A. oil reserve data for Iran. Available at: <http://www.eia.doe.gov/emeu/cabs/Iran/Oil.html>. E.I.A. natural gas data for Iran. Available at: <http://www.eia.doe.gov/emeu/cabs/Iran/NaturalGas.html>.
15. Ivan Eland, "Have 1,000 U.S. Souls Died for Oil?" Independent Institute, September 13, 2004. Available at: <http://www.independent.org/newsroom/article.asp?id=1362>.
16. U.S. Geological Survey, "The U.S. Geological Survey Mineral Resources Program Five-Year Plan, 2006-2010," Updated November 10, 2005, 3. Available: <http://minerals.usgs.gov/plan/2006-2010/mrp-plan-2006-2010.pdf>. The list of mineral commodities for which the U.S. is 100 percent dependent on imports includes: arsenic, asbestos, columbium, fluorspar, graphite, indium, mica (natural sheet), quartz crystal (industrial use), rare earths, rubidium, thallium, thorium and vanadium.
17. American Petroleum Institute, "U.S. Oil Demand and Prices Slip in August 2008," September 17, 2008. Available: http://www.api.org/Newsroom/us_oil_demand_august.cfm
18. If you assume that each of those 200+ plants cost \$75 million to construct (a conservative estimate), the total cost of those distilleries is about \$15 billion. For reference on plant costs, VeraSun, a major ethanol producer, says in a recent annual report that one of its newest ethanol plants, a 110 million gallon per year facility in Hartley, Iowa cost about \$66 million to construct. See: <http://www.sec.gov/Archives/edgar/data/1343202/000119312508053294/d10k.htm>. Another plant, an 84 million gallon plant in Cloverdale, Indiana, owned by AltraBiofuels opened in summer 2008. It cost \$170 million. See: <http://earth2tech.com/2008/05/19/altrabiofuels-names-new-ceo-starts-second-plant-production/>. For capacity, see: <http://www.npr.org/templates/story/story.php?storyId=92559699>.
19. Renewable Fuels Association, "Ethanol Biorefinery Locations," undated. Accessed Sept 8, 2008. Available: <http://www.ethanolrfa.org/industry/locations/>.
20. U.S. Grains Council data. Available: <http://www.grains.org/page.wv?section=Barley%2C+Corn+%26+Sorghum&name=Corn>.

The Delusions of “Energy Independence”

21. U.S. Department of Agriculture, “Global Agricultural Supply and Demand: Factors Contributing to the Recent Increase in Food Commodity Prices,” revised July 2008, 6, 14. Available at: <http://www.ers.usda.gov/Publications/WRS0801/WRS0801.pdf>.
22. USDA. Amber Waves, September 2007, 39. Available at: http://www.ers.usda.gov/AmberWaves/September07/PDF/AW_September07.pdf.
23. USDA Long-term Projections, February 2007, 31. Available at: <http://www.ers.usda.gov/publications/oce071/oce20071c.pdf>.
24. For more on Sen, see Amartya Sen, “The Rich Get Hungrier,” *New York Times*, May 28, 2008. Available: <http://www.nytimes.com/2008/05/28/opinion/28sen.html>.
25. Simla Tokgoz, Amani Elobeid, Jacinto Fabiosa, Dermot J. Hayes, Bruce A. Babcock, Tun-Hsiang (Edward) Yu, Fengxia Dong, Chad E. Hart, and John C. Beghin, “Emerging Biofuels: Outlook of Effects on U.S. Grain, Oilseed, and Livestock Markets,” Iowa State University, May 2007, 25. Available: <http://www.card.iastate.edu/publications/DBS/PDFFiles/07sr101.pdf>
26. Ibid.
27. Thomas Elam, “Biofuel Support Policy Costs to the U.S. Economy,” The Coalition for Balanced Food and Fuel Policy, March 24, 2008, p. 25. Available at: <http://www.balancedfoodandfuel.org/ht/a/GetDocumentAction/i/10560>.
28. Donald Mitchell, “A Note on Rising Food Prices,” World Bank, April 8, 2008, 1. Available: <http://image.guardian.co.uk/sys-files/Environment/documents/2008/07/10/Biofuels.PDF>.
29. Renewable Fuels Agency, “The Gallagher Review of the Indirect Effects of Biofuels Production,” 9. Available: http://www.dft.gov.uk/rfa/_db/_documents/Report_of_the_Gallagher_review.pdf.
30. Organization for Economic Cooperation and Development, Directorate for Trade and Agriculture, “Economic Assessment of Biofuel Support Policies,” 2008, 10. Available at: <http://www.oecd.org/dataoecd/19/62/41007840.pdf>.
31. U.S.D.A., “U.S.D.A. Officials Briefing With Reporters On The Case for Food and Fuel U.S.D.A.,” May 19, 2008.
32. USDA, Economic Research Service, “Food Security Assessment, 2007,” July 2008, 1. Available at: www.ers.usda.gov/Publications/GFA19/GFA19.pdf.
33. Renewable Fuels Association, “Ethanol Facts: Food Vs. Fuel,” viewed September 8, 2008. Available at: <http://www.ethanolrfa.org/resource/veetc/>.
34. For more on Set America Free, see: Institute for the Analysis of Global Security, “Fueling Terror,” undated. Available at: <http://www.iags.org/fuelingterror.html>.
35. Set America Free, “An Open Letter to The American People,” September 27, 2004.
36. E.I.A. data. Available at: <http://tonto.eia.doe.gov/dnav/pet/hist/rwtcd.htm>.
37. Jerry Taylor and Peter Van Doren, “Don’t Increase Gasoline Taxes, Abolish Them,” Cato Institute, August 7, 2007, 11. Available at: http://www.cato.org/pub_display.php?pub_id=8629.
38. E.I.A. data. Available: <http://www.eia.doe.gov/emeu/cabs/nonopec.html>.
39. For more on this, see my book, *Gusher of Lies: The Dangerous Delusions of “Energy Independence,”* 276-279.
40. For more on Boyd’s thinking on strategy, see: http://www.d-n-i.net/boyd/strategic_game.pdf.