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A Free Market Approach to Energy Security

Why "Addiction to Oil" and other Myths are Dangerous to America

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Today, calls for America to become "energy independent" come from across the political spectrum. Among the most important energy-security advocates are conservatives concerned about national security. To make America less "dependent" on energy purchases from unstable regimes, they have proposed a variety of measures aimed at reducing the use of oil. However, rather than make the nation more secure, the proposed measures have the potential to inflict significant economic damage on America, weakening it at a time when national security demands strong economic resilience.

Is Oil Bad for America? The national security case for "curing our addiction to oil" rests on the following premises:

- Oil revenues—especially from Saudi Arabia—are passed on to terrorists to fund their indoctrination and training activities;
- Terrorists are targeting oil supply infrastructure in order to wage economic warfare against the United States and its Western allies;
- Western countries are ill-prepared to deal with such disruptions;
- Hostile regimes use oil revenues to purchase strategic Western assets;
- Iran and other hostile nations are capable of using the "oil weapon" by manipulating the oil supply and with it prices;
- Supply routes are vulnerable to terrorist attack;
- China is becoming a strategic rival in the Middle East and is now competing for the same energy resources;
- Differences with Europe over energy and the Middle East increase tensions among Western nations.

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Many of these assertions seem intuitively correct, but energy is a complex business. A closer look at the facts reveals a much more complex situation.

Oil and Terrorism. If there were a direct connection between oil revenues and terrorism, one would expect there to be few attacks when oil prices are low and many more when prices are high. That does not appear to be the case. In 2007, energy policy analysts Jerry Taylor and Peter Van Doren of the Cato Institute compared two different indicators of Islamist terrorist attacks between 1983 and 2005 with Saudi oil prices and found that in each case the correlation was essentially zero.[1]

There have been no successful attacks on major installations that have significantly impacted oil supply.

There also have been no major attacks on tankers or aimed at closing supply "choke points" that have come anywhere close to succeeding. As former U.S. Pacific Command Commander in Chief Dennis Blair and former National Security Council Senior Asia Director Kenneth Lieberthal (now at the University of Michigan) pointed out recently in *Foreign Affairs*, "in order to disable a modern-day tanker, an attack would have to include a salvo of eight to ten missiles with conventional warheads; a sustained campaign would quickly exhaust the missile stockpile of a medium-sized military power."[2] In fact, minor attacks have reduced considerably, to the extent that the Institute for the Analysis of Global Security is no longer regularly updating its "Iraq Pipeline Watch."[3]

To be sure, there is a "fear premium" that is factored into the price of oil that reflects what has come to be known as "petronoia"[4] about supply disruptions, but this is as much due to uncertainty about Nigerian and Venezuelan politics as much about fears of Islamist terrorism.

The "Oil Weapon." The much-feared "oil weapon" is likely to be ineffective, as experience shows. When OPEC countries announced their oil embargo in 1973, U.S. crude oil imports increased from 1.7 million barrels per day (mbd) in 1971 to 2.2 mbd in 1972, 3.2 mbd in 1973 and 3.5 mbd in 1974. Recent research has shown that the 1970s "oil shocks" were caused not so much by the embargo as by the price controls and wage rigidities of the time. A 2005 Federal Reserve Bank of Cleveland study found that oil price increases do not cause inflation and that a doubling of oil prices would lead to a one-time increase in commodity prices of 3 percent—burdensome, but hardly catastrophic.[5]

In 1973, OPEC states used the "oil weapon" in concert. Today, Iran would not be able to find many allies for any attempt to use its "oil weapon" against the West. Even if Iranian leaders were foolhardy enough to try to cut oil shipments, Saudi Arabia's spare capacity of 2.2 mbd could cover in the global market for Iran's exports of 2 mbd.[6]

Moreover, since Iran does not export directly to the U.S., it is nations like China and India that would have to find alternative sources at higher prices (although the fungibility of oil as a commodity would lead to higher prices for U.S. imports).

The United States imports only about 20 percent of its oil from the Middle East.[7] America's two biggest suppliers are Canada and Mexico. In addition, U.S. domestic production supplies roughly 40 percent of U.S. demand. It is North America that will suffer the biggest blow if the U.S. decides to reduce its use of oil. Similarly, the world as a whole relies on the Middle East for less than a third of its oil needs.[8]

Closure of the Straits of Hormuz is more difficult than it sounds. The Iranian government vowed to close the straits in 1983 during its war with Iraq. Over 500 attacks on oil tankers killed 400 sailors but failed to disrupt more than 2 percent of the traffic. Recent analyses suggest that there is no militarily feasible way of closing the straits completely.[9]

Efforts by Iran to close the straits would help alienate its major Asian trading partners, such as India and China, increase the likelihood of international action, and disrupt Iran's own imports of petroleum products, which it needs to keep its population moving, as its gasoline refining capacity is grossly inadequate.[10]

In any case, the best guarantee to keep the world's shipping lanes open is the U.S. Navy's ability to patrol them. For this reason, the U.S. Senate should not ratify the Law of the Sea Treaty, now currently before it, which would likely hinder America's efforts in this regard.[11]

Finally, a diplomatic option for conveying to OPEC how seriously the West views access to affordable energy would be to expand Article V of the NATO Treaty to include energy security, which while unlikely to ever be invoked, would have significant psychological effect.[12]

Non-Terrorist Use of Petrodollars. Overseas acquisitions from the Arab world in 2007 amounted to a mere $68 billion. Middle Eastern individuals and companies own a total of $8 billion of U.S. direct investment, less than that owned by tiny Belgium, at $10 billion.[13] But even if the numbers were bigger, there is no fire in this alarm.

Foreign investment raises labor productivity, income, and employment. Workers are better off with more capital rather than with less, and are usually indifferent to the investor's nationality. Middle Eastern investment increases capital in its recipient countries, which directly increases labor productivity and GDP. Because about two-thirds of GDP goes to labor as wages, salaries, and fringe benefits, rising output means higher wages or more employment. In essence, the Arabs are using our petrodollars for our benefit as much as theirs. Foreigners, never mind Arabs, continue to own a negligible amount of American capital, so fears of an "Arab takeover" are overblown.

China and Europe. The American military's active efforts to secure oil supply facilities and routes represents a taxpayer-funded gift to oil regimes to enhance security for which they themselves should be responsible. Saudi Arabia and Kuwait together paid for 55 percent of the costs of Operation Desert Storm, which suggests ample capacity to

pay on their part.[14] Other nations import higher proportions of Middle Eastern oil without a single soldier on the ground there.

The more that China sees its strategic needs met by increased security of the oil supply, its involvement in the Middle East should reduce the U.S. taxpayer subsidies to Middle Eastern regimes in the form of military aid.

Europe's differences with America over energy policy are largely of the Europeans' own making. For instance, by allowing themselves to be convinced that their domestic sources of energy—coal and nuclear—are bad for the planet, the Germans have made themselves dependent on one source of electricity—Russian natural gas. If Germany and its neighbors could break out of this mindset, the use of coal and nuclear would reduce this dependency and their energy interests would square once again with those of the United States.

Would the Proposed Solutions be good for America? The national security conservatives' main prescription to end "dependence" on foreign oil is to change the nature of America's vehicle fleet to eliminate gasoline as the main fuel. There are several proposals for this, but the most popular are

- A mandate that all vehicles sold in the United States be flex fuel-capable, to encourage a switch to E85 ethanol—fuel that is 85 percent ethanol—as the main source of energy;[15]
- Large public investment in R&D and buyer incentives to encourage the development of electric vehicles, including the "plug-in hybrid;"
- A global strategic petroleum reserve.[16]

Flex fuel mandates: There are currently 4.4 million flex fuel vehicles on the road in America, but very few publicly accessible E85 filling stations outside Illinois and Minnesota. Flex fuel vehicles only cost $100-200 more in retail price than the equivalent conventional fuel vehicles. However, this is to some degree because they are subsidized by credits under the federal Corporate Average Fuel Economy (CAFE) program, since they count greatly towards an auto manufacturer's fleet fuel efficiency targets under CAFE.

It is unclear how any CAFE program would operate if all automobiles were flex-fuel vehicles. Today, flex-fuel consumption counts towards a manufacturer's CAFE targets; in practice most still run on gasoline. Ironically, the high rating of flex fuel vehicles under CAFE has allowed American manufacturers to continue selling the large, powerful vehicles Americans want to buy. A flex-fuel mandate would likely prompt environmentalists to press for a reformed version of CAFE that will remove that advantage, which would put pressure on manufacturers to stop selling those vehicles—flex fuel or not—thereby weakening choice for American consumers, decreasing the overall safety of the American fleet, and leading to more deaths on the road.

On the other hand, E85 is a high-octane fuel that allows much higher thermodynamic efficiency, allowing for smaller but just-as-powerful engines.[17] However, retaining the

capacity for a vehicle to run on gasoline—the essence of a flex-fuel vehicle—obviates this potential advantage.

E85 as a fuel source is also problematic. America's entire current corn crop could not support a shift over to E85, displacing as little as 12 percent of the entire gasoline demand, according to some estimates.[18] Burning food as fuel is simply not efficient. To meet even modest demands for replacement of gasoline and continue to feed Americans and their livestock, millions of acres of land would need to be clear-cut to provide growing room. Because much of this land would be of poor quality, even more land would be needed to get the same yield. This also applies to cellulosic ethanol, which would require vast amounts of switch grass to be grown, but the technology for which is not yet available on an operational scale.

The ethanol industry is only economic with vast subsidies. Any flex fuel vehicle mandate would require backing from a massive system of handouts and incentives just to stay afloat. This would be a massive drain on the economy and put America at a significant competitive disadvantage. This would help lower the price of oil, but the biggest beneficiaries of that will be the Chinese, who will leap at the chance to use a more efficient source of energy at a lower cost.

Even some ethanol investors do not believe that a production mandate is all that is needed for the spread of E85. Venture capitalist Vinod Khosla, who has bet heavily on ethanol, has called for mandates on oil companies to include E85 pumps at filling stations. While the corrosion problems with ethanol relating to vehicle design have largely been solved, corrosion remains a serious problem for the bulk transport and dispensing of ethanol. As a result, E85 pumps cost around $17,000 to install. Upgrading an existing pump costs at least $5,000.[19] This means that, while the cost to large gas dispensing enterprises would be bearable, it would be crippling to smaller and independent filling station operators without any assurance that consumers would be willing to buy the product.

In the end, E85 stands or falls on its own merits as a viable alternative to gasoline. It is worth remembering the main lesson of the failed Synfuels program of the 1970s, memorably expressed by MIT's Thomas Lee, Ben Ball, Jr., and Richard Tabors: "If a technology is commercially viable, then government support is not needed, and if a technology is not commercially viable, no amount of government support will make it so." Even the threat of Islamist terrorism cannot shake that unalterable truth.

Electric technology: Plug-in hybrids and electric powered vehicles show much more long-term potential than flex-fuel vehicles, but the technology is simply not there yet in a useable and affordable fashion. Previous massive government investment programs, like the Partnership for a New Generation of Vehicles, have little to show for the millions of taxpayer money spent.[20] Automakers are investing heavily in the design of new technologies, so it is likely that private enterprise can bring about the needed technological breakthroughs in due course without government interference. It is likely that affordable, powerful hybrids and more advanced vehicles will be available and attractive to consumers within a decade.

However, there are environmental objections to consider. The new vehicles will replace gasoline with massive amounts of new electricity, which has to come from somewhere. Coal-fired electricity is the most cost-effective way to meet this demand, and coal is present in abundance in the United States. However, environmentalists oppose the building of any new coal-fired power plants on the grounds that they increase CO2 emissions. They have also stopped new nuclear plants over the past three decades on other alleged environmental grounds. The only other practical large-scale option is natural gas, which suffers from many of the same import issues as oil, and the price of which has also increased massively over recent years; increased demand for electricity generation can only push the price yet higher.

Strategic Reserves: As discussed above, oil shocks are not as serious a threat to the global or domestic economy as generally thought, so the value of strategic petroleum reserves is questionable. Such reserves, moreover, are counterproductive as they drive up the price of oil and by doing so result in the oil deposited being much more expensive to the taxpayer—one study found a premium of $40-50.[21]

Moreover, governments have proven loath to utilize strategic reserves as readily as economists recommend, significantly reducing their benefits, as the stored oil becomes inaccessible. Releasing reserves and terminating such programs are likely to drive down the price of oil. Similarly, allowing the use of America's considerable reserves of fossil fuels in places like Alaska's Arctic National Wildlife Refuge, the Rocky Mountains, and the Outer Continental Shelf would vastly increase the amount of fossil fuels produced domestically and thus lessen OPEC's clout.

Conclusion. Oil, gasoline, and other fossil fuels have literally supplied the engine of American economic growth over the past century. To abandon their use prematurely would be a massive mistake, weakening America just as it needs to be at its strongest. America has weathered energy crises in the past, and will do so again. As long as U.S. policy makers maintain an open and competitive economy, we can continue to meet energy challenges well into the future.

Notes

[1] Jerry Taylor and Peter Van Doren, "All Circuits Misloaded," National Review Online, September 26, 2007, http://article.nationalreview.com/?q=NjllYTlhMDkyMjcwZDQ4ZTZiYmVhYTlkMGUzMjJhM2M=.

[2] Dennis Blair and Kenneth Lieberthal, "Smooth Sailing: The World's Shipping Lanes Are Safe", *Foreign Affairs*, May/June, 2007, http://www.foreignaffairs.org/20070501facomments86302/dennis-blair-kenneth-lieberthal/smooth-sailing-the-world-s-shipping-lanes-are-safe.html.

[3] After only eight entries to date since July 2007, the site posted the following: "Iraq Pipeline Watch is now being updated only sporadically and may not be a complete log of attacks." http://www.iags.org/iraqpipelinewatch.htm.

[4] "An excessive fear or worry over the future supply problems of oil and or gasoline which causes traders to drive the price higher," http://www.langmaker.com/db/Petronoia.

[5] Charles T. Carlstrom and Timothy S. Fuerst, "Oil Prices, Monetary Policy, and the Macroeconomy," Federal Reserve Bank of Cleveland, Economic Commentary, July 2005.

[6] Bassam Fattouh, "The myth of the Iranian oil weapon," *Energy Publisher*, October 31 2007, http://www.energypublisher.com/article.asp?id=11798.
[7] Energy Information Administration, Crude Oil Imports from Persian Gulf, http://www.eia.doe.gov/pub/oil_gas/petroleum/data_publications/company_level_imports/current/summary2007.html.
[8] About 28 percent in 2006, http://www.eia.doe.gov/cabs/Persian_Gulf/Background.html
[9] Blair and Lieberthal.
[10] Fattouh.
[11] See Doug Bandow, "The Law of the Sea Treaty: Impeding American Entrepreneurship and Investment," Entrepreneurship Analysis, September 20007, Competitive Enterprise Institute, http://cei.org/pdf/6151.pdf.
[12] See, for instance various suggestions in the evidence submitted to the UK House of Commons Defence Committee'' report on The Future of NATO and European Defence, March 4 2008, http://www.publications.parliament.uk/pa/cm200708/cmselect/cmdfence/111/111.pdf.
[13] James K. Jackson, *Foreign Direct Analysis in the United States: An Economic Analysis*, Congressional Research Service, March 23, 2005.
[14] Taylor and Van Doren, "Driving Bin Laden," National Review Online, March 8 2006, http://www.nationalreview.com/comment/taylor_doren200603080748.asp.
[15] See, e.g., Robert Zubrin, *Energy Victory: Winning the War on Terror by Breaking Free of Oil*, Prometheus Books 2007.
[16] Gal Luft, "How to Make OPEC Blink," *Foreign Policy*, February 2008, http://www.foreignpolicy.com/story/cms.php?story_id=4151.
[17] Mike Allen, "Crunching the numbers on alternative fuels," *Popular Mechanics*, April 26, 2006.
[18] Jason Hill et al., "Environmental, economic and energetic costs and benefits of biodiesel and ethanol biofuels," *Proceedings of the National Academy of Sciences*, Vol. 103, No. 30, July 25, 2006.
[19] Testimony of Sonja Hubbard on behalf of the National Association of Convenience Stores and the Society of Independent Gasoline Marketers of America before the Subcommittee on Energy and Air Quality, of the U.S. House Committee on Energy & Commerce, June 7, 2007., http://energycommerce.house.gov/cmte_mtgs/110-eaq-hrg.060707.Hubbard-testimony.pdf.
[20] See, e.g., Ashley Fingarson and Jane Shaw, "Hybrids: made in the USA? A little-known government program that fizzled," PERC, http://www.perc.org/perc.php?id=526
[21] Taylor and Van Doren, "The Case Against the Strategic Petroleum Reserve," *Policy Analysis* No. 555, Cato Institute, November 21 2005.